

Apple-Works Forum

The Monthly Publication of **NAUG: The National AppleWorks Users Group**

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TABLE OF CONTENTS

Letters to NAUG	2	My Favorite Macro	20
<ul style="list-style-type: none">• Use your credit card.• Member thanks a volunteer.• How to save money on DeskJet cartridges.• German AppleWorks 3.0.• AWGS page layout bug.• Mouse doesn't work.		<ul style="list-style-type: none">• Macros that print two-sided documents.	
Advanced Techniques	5	ReportWriter Tutorial	22
<ul style="list-style-type: none">• How to transfer AppleWorks and AWGS files to a Macintosh.• How to use the NAUG BBS to transfer a file.		<ul style="list-style-type: none">• How to generate a relational report.• How to design unique codes.	
Novice Notes	10	AppleWorks News	29
<ul style="list-style-type: none">• Spreadsheet format and design techniques.		<ul style="list-style-type: none">• Late news for AppleWorks Users from ActaSoft, Applied Engineering, Beagle Bros, Epson America, Hewlett-Packard, Micro Memory, NAUG, Sensible Software, Vitesse, and Zip Technology.	
Special Offers	17	Electronic Index Disk Update	32
<ul style="list-style-type: none">• Special offers for NAUG members from ActaSoft, Impact Printhead Service, JEM Software, NAUG, Sensible Software, Supra Corporation, and Vitesse.		Members Helping Members	34
		<ul style="list-style-type: none">• 150 members who offer help with the AppleWorks modules.	
		NAUG Membership	36
		Classified Advertising	36
		NAUG Classifieds	36

Support for AppleWorks and ///EZ Pieces Users

Use Your Credit Card

Dear Fellow NAUG Members:

The recent demise of Ingenuity, formerly Applied Ingenuity, left many AppleWorks users as unsecured lenders to the company. We did not knowingly lend money to Ingenuity, but we purchased or returned items for repair or credit. Since we did not receive our merchandise or credit when the company closed its doors, we are left with little more than our receipts and bills.

If you are going to buy mail order, protect yourself. Use a credit card and don't be shy about asking your credit card company to remove charges from your account. All you need do is write to the credit card company with your account number and an explanation of the problem. Include copies of any documents pertinent to the problem. If you returned merchandise to a vendor, make a copy of the shipping documents and send that with your request for a credit. Always return merchandise with a carrier that has someone sign for the package. You should also be aware that if you have a problem with the quality of goods purchased outside your home state and more than 100 miles from your mailing address, you may not be able to recover anything. In this case, some banks will protect your interest; others will not. I suggest that you call your bank or credit card company and ask for their policy regarding out-of-state purchases. If they do not protect your interest, use a different credit card for your purchases; this loophole in the Fair Credit Act seriously jeopardizes the protection it offers mail order buyers.

Steve Beville
Spartanburg, South Carolina

The **National AppleWorks Users Group (NAUG)** is an association that supports AppleWorks users. NAUG provides technical support and information about AppleWorks and enhancements to that program. Our primary means of communicating with members is through the monthly newsletter entitled the **AppleWorks Forum**.

Member Thanks a Volunteer

Dear Cathleen,

I am writing to thank Sharon De Kirmandjian of Libertyville, Illinois. I recently had problems designing a spreadsheet I needed under a tight deadline, so I looked up Sharon's name in the Members Helping Members column of the newsletter. She talked me through the steps as we both worked at our respective computers. She was patient, knowledgeable, and willingly accepted my follow-up calls until I was able to complete the rest of the job on my own.

Thanks to Sharon and for the Members Helping Members program. What a wonderful idea!

Susan Husar
Chicago, Illinois

[Ed: Sharon De Kirmandjian is one of more than 150 NAUG Members Helping Members volunteers who are ready to help you through those difficult AppleWorks moments. Our thanks to these important members of the AppleWorks community.]

If you have volunteers you want to thank publicly, please send their names and a brief statement of how they helped you to "Thanks", NAUG, Box 87453, Canton, Michigan 48187. We will publish a brief list of these thank-you's in a future issue of the AppleWorks Forum.]

AppleWorks Forum

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Save Money on DeskJet Cartridges

Dear NAUG:

I continue to enjoy and recommend the DeskJet Plus printer I described in the article you published in the August 1990 issue of the *AppleWorks Forum*. I recently discovered a way to significantly reduce the cost of operating the DeskJet by refilling the sealed ink cartridges used in the printer. The procedure requires a medical syringe (available from local drug stores) and Sheaffer's Script brand "Jet Black" ink.

If you remove the ink cartridge from the printer and hold it upright, you will find a sealed hole at the top. Fill the syringe with ink, puncture the seal with the needle, and inject the ink into the cartridge. The cartridge holds a significant amount of ink; it takes two or three syringe-fulls to complete the process, but that depends on the size of the syringe.

I presume that other brands of ink and other colors might work, but I have not tested other combinations.

Although I have used this technique for five months without difficulty, it is certainly not authorized by Hewlett Packard. I also assume that using re-inked cartridges invalidates the warranty on the printer. But with cartridges selling for \$15-\$20 each, filling existing cartridges can result in significant savings.

Rich Brossman
Cleveland, Ohio

[Ed: Hewlett Packard just announced that it is replacing both the DeskJet and DeskJet Plus printers with a new, less expensive model; the DeskJet 500.

The DeskJet 500 retains the speed of the DeskJet Plus and includes more fonts and better font spacing than the earlier DeskJets. However, those features are of minimum importance to AppleWorks users, since AppleWorks does not support the proportionally spaced fonts available in the DeskJet's native mode. Users who install the recommended Epson printer emulation cartridge should see no differences in the performance of the DeskJet 500 and the DeskJet Plus printer.

The DeskJet 500 will ship with a new ink which resists smearing. Starting this December, HP plans to ship similar water-resistant ink cartridges for all DeskJet family printers.

The DeskJet 500 has a suggested list price of \$729 and is available at significant discounts from mail order dealers.]

German AppleWorks 3.0

Dear Cathleen,

An article that appeared in the August 1990 issue of the *AppleWorks Forum* indicates that there is no German version of AppleWorks 3.0. While that is technically correct, there is a set of professionally done patches that converts standard U.S.A. AppleWorks 3.0 into a German version. The package includes the U.S.A. version of AppleWorks 3.0, the patched German version of the program, and a German version of TimeOut UltraMacros.

NAUG members can order from Computer Soft Service, Martina Grimm, Fanny Königstr. 5, 8702 Zell, Germany. Telephone: 931-464781; Fax: 931-463183. The price is DM 1084. You can upgrade from German version 1.4 for DM 824; include your original disks with your order.

G. Steinback
Gerlenhofen, Germany

AWGS Page Layout Bug

Dear Cathleen,

I thoroughly enjoyed the series of articles on AppleWorks GS by John Link and I particularly liked his review of the program's page layout module. I use that module extensively with my students.

Unfortunately, there is an annoying bug which crops up in the page layout module when you either quit AWGS or close a page layout file. If you respond "No" to the "Save Untitled1 (PL) before closing?" prompt, AWGS sometimes locks up the computer.

Letters...

This problem only manifests itself when you discard an unsaved file, so one's most likely loss is only the time it takes to reboot the system. Of course, other files on the desktop which haven't been saved are lost.

My students and I have experienced this bug on a variety of systems equipped with different peripherals. The only common denominators were 2.25 megabytes or less of memory and a ROM 01 IIGS computer.

I suggest that AWGS users continue to save all files regularly, particularly when working in the program's page layout module.

Pete Ross
Wayne, Michigan

Mouse Doesn't Work

Dear NAUG,

How do I get my mouse to work with AppleWorks?

Scotty Shipley
San Antonio, Texas

[Ed: Unenhanced versions of AppleWorks do not accept mouse input. TimeOut UltraMacros adds that feature to AppleWorks.]

If your mouse does not work after you install UltraMacros, you will have to turn on that UltraMacros option. Proceed as follows:

- 1. Issue an Apple-Escape to access the TimeOut Menu and select "Macro Options".*
- 2. With the Macro Options Menu on the screen, select #8, "Other Activities".*
- 3. With the UltraMacros Other Activities Menu on the screen, select #4, "Reactivate the mouse".*
- 4. Press the Escape Key twice and respond "Yes" to the "Save current option settings to disk?" prompt.*

Now you can use the mouse to navigate around AppleWorks.

I suggest that you also explore the other settings available on the Macro Options and UltraMacros Other Activities Menus. These settings let you control whether or not: (a) UltraMacros displays a clock on your screen, (b) UltraMacros clicks the AppleWorks speaker when you record a macro, (c) UltraMacros single-steps through macros to help you debug your work, (d) UltraMacros automatically sets the Caps Lock key to "on" (useful for some handicapped users), and (e) the screen preserver is active. These options also let you set the speed that the cursor flashes, how fast the cursor moves when you move the mouse, and how long the screen preserver waits before blanking the display.]

Inside AppleWorks

Randy Brandt, author of the popular series of "Inside AppleWorks" articles, took this month off from writing while he moved to Colorado with his family. Mr. Brandt would appreciate your suggestions and ideas for future articles about what goes on "Inside AppleWorks". Mail to: Inside AppleWorks, NAUG, Box 87453, Canton, MI 48187.

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Transferring AppleWorks and AWGS Files to a Macintosh

by Nanette Luoma

This article describes how to transfer AppleWorks and AppleWorks GS files to Macintosh computers. The author assumes you are familiar with the basic operation of these computers.

Many AppleWorks users live in a schizoid world divided between Apple II, Macintosh, and MS-DOS computers. Surviving in that world is easy. But prospering in the rich environment offered by these different computer systems is a challenge.

Getting programs designed for one system to run on another is a problem that you can solve only with the purchase of expensive emulation equipment. However, transferring data files between computers is neither difficult nor expensive.

A series of articles in the September through November 1988 issues of the *AppleWorks Forum* described how to transfer data between computers. The article in the September 1988 issue described how to transfer data from Radio Shack notebook-style computers (e.g., TRS-80 Model 100, 102, 200, and 600 computers) into AppleWorks. The October 1988 issue described how to transfer data between AppleWorks and MS-DOS machines, including popular MS-DOS laptops. The November 1988 issue described how to transfer data between AppleWorks and Macintosh systems. [Ed: These issues of the *AppleWorks Forum* are available from NAUG for \$3.50 per issue including postage within the United States.]

The techniques described in those articles are still current, with two important exceptions. First, you cannot use the approach described in the November 1988 article to transfer AppleWorks 3.0 files to Macintosh computers. Second, those articles did not describe how to transfer AppleWorks GS (AWGS) files. Unlike the earlier articles (written before the release of AppleWorks 3.0), the procedures I will describe work with all versions of

AppleWorks and with AppleWorks GS word processor files.

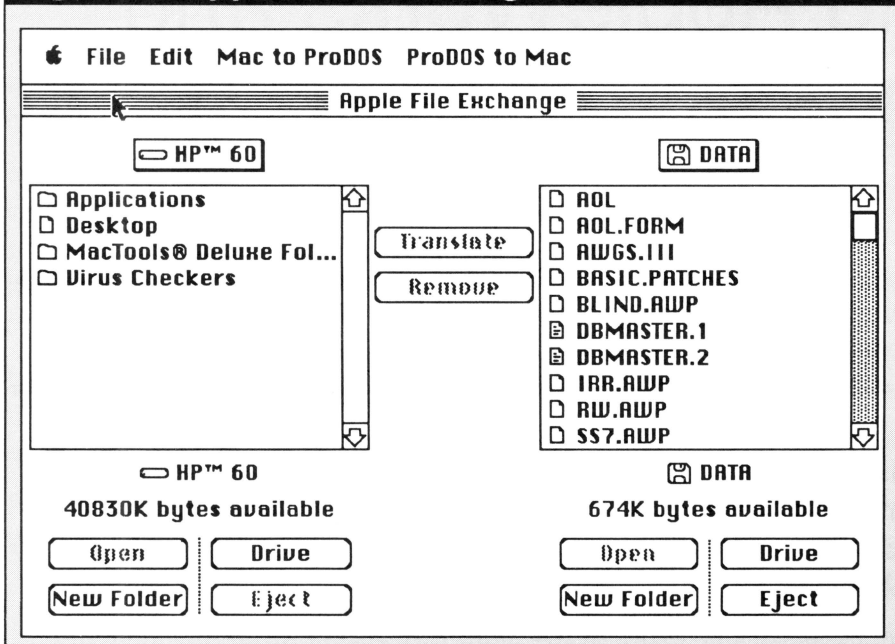
The process involves transferring your files into MacWrite II, a popular Macintosh word processing program. Then you can read the document into many of the word processing programs available for the Macintosh. This approach preserves the format of your document; it transfers your bold-face, indent, and other formatting commands into the MacWrite II document.

Getting the File to the Macintosh

This procedure requires the following hardware and software:

- A Macintosh with at least two disk drives. It is easier if one is a hard drive, but you can perform the procedure with two floppy drives.
- A 3.5-inch disk drive connected to your Apple II.
- A copy of Apple File Exchange, a Macintosh utility program that lets the disk drive read Macintosh, ProDOS, and MS-DOS disks. Apple File Exchange is shipped with each Macintosh computer. You can also get a copy from any Apple dealer or from the NAUG Public Domain Library. (Request the Macintosh Transfer Disk; \$6 plus \$2 s/h.)
- A copy of MacWrite II.
- To transfer AWGS files, you need the MacWrite II AppleWorks GS Filter. This enhancement to MacWrite II is available at no charge from Claris Customer Relations; (408) 727-8227. Copy the AppleWorks GS Filter into the Claris Translators folder on the Macintosh.

Figure 1: Apple File Exchange Screen



If you do not have the necessary equipment, you can still transfer your files. However, you should skip this section and start with the section entitled "Direct Connection between Computers" below.

Follow these steps:

1. Save your files in standard AppleWorks or AWGS format on a 3.5-inch disk. (Do not save the files in ASCII format or you will lose all your formatting commands.) For purposes of this article, I will assume you saved your files on a disk named /DATA.
2. Launch Apple File Exchange on the Macintosh.
3. Insert your /DATA disk in the Macintosh disk drive. The screen will display a list of the files on the disk and the files in the folder containing the Apple File Exchange program. (See *Figure 1*.)
4. Pull down the "ProDOS to Mac" Menu at the top of the screen and make certain that "AppleWorks to Microsoft Works" does *not* have a check mark in front of it. If it does, position the cursor on "AppleWorks to Microsoft Works" and release the mouse button to de-select that option.
5. If you have a hard disk you should store the converted file on the root directory. That makes it easy to find and delete the file later in this

process. To do this, position the cursor on the button above the list of files on the destination disk (i.e., on "HP 60" in *Figure 1*) and hold down the mouse button. Apple File Exchange will display a list of the folders in the hierarchy. Select the last item on the list and release the mouse button. You can also use the "drive" button to select another disk drive.

If you have two floppy disk drives, you can transfer the AppleWorks or AWGS file onto any Macintosh formatted disk. Click on the Eject button on the lower left-hand corner of the screen to eject your program disk and insert a Macintosh disk.

6. Click on the name of the file you want to transfer from the /DATA disk. That will highlight the Translate button.
7. Click on the Translate button. A message box will appear telling you that your file is being copied onto the Macintosh disk.
8. Repeat steps 6-7 and copy all your AppleWorks and AWGS files onto the Macintosh disk.
9. Quit Apple File Exchange.

Translating the File

Your Macintosh disk now contains AppleWorks or AWGS data. Next, you need to translate the data into a format readable by Macintosh applications. Follow these steps:

1. Launch MacWrite II on the Macintosh.
2. Select "Open" from the File Menu. Make certain that "Show" on the Open Documents Menu indicates "All available".
3. Select the file you want to translate. MacWrite will translate the file and open it as a new MacWrite II document. The process is slow and you will have to be patient if you are converting a long document.

You can now edit the file and save it in MacWrite II format or translate the file into any other format

Advanced Techniques...

supported by MacWrite II by using the "Save as" command. You can also make your edits, save the file in AppleWorks format, transfer the file back to the Apple II, and load it onto the AppleWorks desktop. Your AppleWorks file will retain any AppleWorks-supported formatting commands inserted with MacWrite. *[Ed: This two-way transfer does not work with AWGS. To load a file back into AWGS, transfer it to the Apple II as an AppleWorks file and then open the file with AWGS.]*

Direct Connection between Computers

The procedures described above are convenient and preserve all the formatting commands you entered in AppleWorks or AWGS. However, those techniques assume that you have a 3.5-inch disk drive for your Apple II. If you do not have that drive, there are still two ways to transfer your files. One approach is to connect the serial ports on the Apple II and Macintosh *[Ed: or MS-DOS]* computers and transfer the files over that connection. The second approach is to upload the AppleWorks or AWGS file to an electronic bulletin board and download the file with the Macintosh. However, these procedures only work if you save your document as a text file. As a result, you will lose most of the formatting commands you entered into the original AppleWorks or AWGS file.

Follow these steps to transfer the file with a cable:

1. Convert your AppleWorks document to a text file by issuing an Apple-P command and indicating that you want to print the file as "A text (ASCII) file on disk". Convert your AWGS document to a text file by selecting "Save as..." from the File Menu and clicking on "As ASCII Text" at the bottom of the Save as... dialog box.
2. Connect one end of a standard ImageWriter II cable to the modem port of your Apple IIGs, IIC, IIC Plus, or to a Super Serial Card configured to communicate with a modem in your Apple IIe. Connect the other end of the cable to the modem port of the Macintosh.
3. Launch communications programs on both computers. Any programs that support Xmodem transfer will work. *[Ed: You can also use the*

telecommunications modules built into integrated programs such as AWGS on the Apple II and Microsoft Works on the Macintosh.]

4. Configure both communications programs to communicate at 8 bits, one stop bit, and no parity. *[Ed: Any settings will work as long you use the same settings on both computers.]*
5. Test your setup by typing on one of the keyboards. If your computers are configured correctly, what you type on one computer will appear on the other computer's screen. If your typing does not appear on the other computer, check the connections and cable. You will not be able to transfer the files until your systems are linked and configured correctly.
6. Select "Transmit File" on the Apple II and enter or select the file you want to transmit.

Note that some telecommunications programs offer two ways to transfer files but support error checking protocols on only one of those transfer methods. Use the method that supports error checking. (For example, Point-to-Point offers "Data Send" (Apple-2) and "Transfer" (Apple-3). However, the program only supports error checking in "Transfer" mode. If you use Point-to-Point, you must issue an Apple-3.)

7. Your communications software will display a list of supported protocols. Select Xmodem or any other protocol that is supported by both communications programs.

Your Apple II will start looking for the Macintosh, but the file transfer will not start until you configure the Macintosh communications program to receive the file.
8. Tell the communications program on the Macintosh that you want to receive a file. Select the same protocol that you specified in step #6 above.

The communications software will transfer the file and store the data on a Macintosh disk. You can now read the file as a text file into your Macintosh word processing program.

How to Use the NAUG BBS to Transfer a File

NAUG's free AppleWorks bulletin board, The Electronic Forum, makes it easy to send AppleWorks and AppleWorks GS (AWGS) files to other AppleWorks users and to transfer your files to Macintosh and MS-DOS computers. The trick is to send your files as "enclosures" with a mail message. You can then capture that message with a Macintosh or IBM-compatible and load the file into another word processing program. Proceed as follows:

1. Save the file as a text (ASCII) file in either AppleWorks or AWGS.
2. Launch a communications program on the Apple II or access the communications module within AWGS.
3. Configure the software to transmit 8 bits, 1 stop bit, and no parity.
4. Call the NAUG board at (313) 736-8102.
5. Follow the on-screen prompts to log on and get to the Main Menu.
6. Type an "E" to access the electronic mail system.
7. Type an "S" to indicate that you want to send a message. Address the message to yourself and enter any title for the message.
8. Indicate that you do *not* want to upload a prepared message.
9. Type a brief message about the file you will upload. For example, "Here is my file."

10. Press the Return Key twice to indicate that you are done entering the message.
11. Now you will upload the file. Type an "F" (for "File") in response to the "<L>ist, <V>iew, <C>ont, <E>dit, <R>cpt, <F>ile, <S>ave, or <Q>uit?" prompt. That tells the board that you want to "enclose" a file with your message. Confirm that you want to enclose a file by entering a "Y".
12. The board will ask for a name for the enclosed file. Enter a name and press the Return Key.
13. The system will display a list of the protocols it supports. Select a protocol that is supported by your Apple II telecommunications program. If in doubt, select #4, "Xmodem - Checksum".

The Electronic Forum is ready to receive your file. Now you must tell the Apple II to transmit the document. The procedures you follow are dictated by your telecommunications software; I will describe the steps to use with Point-to-Point (PTP).

Follow these steps:

1. Issue an Apple-D command, select #7 ("Change Disk Drive or Prefix") and tell PTP the location of your data disk. Then press the Escape Key to return to Terminal Mode.
2. Issue an Apple-3 to tell PTP that you want to transfer a file.
3. Type a "T" to indicate that you want to transmit the file.

4. Indicate that you do *not* want to convert the file into Binary II format. (Binary II is an Apple II file format that is not supported by software for Macintosh and MS-DOS systems.)
5. Select "Xmodem - 1K" from the Protocol Menu.
6. Select the file to upload from the menu on the screen.

PTP will upload the file to the bulletin board service and will return to Terminal Mode. Your system will then display the "<L>ist, <V>iew, <C>ont, <E>dit, <R>cpt, <S>ave, or <Q>uit" menu sent by the Electronic Forum. (Some communication programs do not return to Terminal Mode automatically. If that happens, press the Escape Key to leave File Transfer Mode.)
7. Your message is now in a temporary buffer on the bulletin board. Press the letter "S" to save the file on the system's hard disk. If you skip this step, your message and file will be deleted when you log off the system.
8. Press the letter "G" (for "Goodbye") to log off the Electronic Forum.

Downloading the File

Now you can log onto the bulletin board with a Macintosh or MS-DOS computer and download the file. Proceed as follows:

1. Configure your software for 8 bits, 1 stop bit, and no parity.
2. Dial the Electronic Forum and log in.

3. The system will indicate that you have messages in your mailbox. Respond to the "Read Now (Y/N)?" prompt by pressing the letter "Y" and to the "Pause after each msg (Y/N)?" prompt with another "Y".
4. The bulletin board will display your message and indicate that there is a file enclosed with the message. Press the letter "E" (for "Enclosure") when you see the "<D>elete, <E>nclosure, <A>gain, <R>eply, <N>ext, or <S>top?" menu.
5. The system will then display a list of the available error checking protocols. Select a protocol that is available on your Macintosh or MS-DOS telecommunications program.

The BBS is now ready to transmit the file. Next, you must get your computer ready to receive. The steps you follow depend on your communications software and cannot be detailed here.

When you are done, your file will be on the Macintosh or MS-DOS computer as a text (ASCII) file. You can now load the file into your favorite word processing program and start editing the document.

— Tim Harrison
Sysop, NAUG BBS

Using a Bulletin Board

Direct transfer of the file over a connecting cable is fast and convenient, but requires that your Apple II and Macintosh be within a few feet of each other. What if your Apple II is at home and your Macintosh is at the office, miles away?

If you have a 3.5-inch disk drive connected to the Apple II, use the procedures described earlier in this article. That approach preserves your file formats and is the easiest way to transfer files to a Macintosh. If you do not have the necessary hardware, you can use a bulletin board or electronic mail system to transfer the files. Follow these steps:

1. Save the document you want to transfer as a text file (see step #1 for "Direct Connection between Computers" above).
2. Connect the modem to the Apple II and configure your communications software to match the parameters of the bulletin board system.
3. Launch any Apple II communications program that supports the Xmodem file transfer protocol. Use the AWGS telecommunications module if you want to transfer AWGS files.
4. Tell the bulletin board that you want to send yourself a binary file. Each electronic service handles this message differently. For example, if you use CompuServe, you can upload this file to the Personal area (GO PER).
5. Upload the file using the Xmodem protocol or any other protocol supported by both your Apple II software and the bulletin board system. (See the sidebar entitled "How to Use the NAUG BBS to Transfer a File" for step-by-step directions that describe how to use NAUG's electronic bulletin board for this transfer.)
6. Log off the electronic service.
7. Connect a modem to the Macintosh and launch a communications program that supports Xmodem or any other error checking protocol available on the electronic service. Configure the program for the electronic communications service.
8. Download the file and log off the electronic service.

If all went well, your AppleWorks or AWGS file is now stored as a text file on a Macintosh disk. You can now read this file into any word processing program that accepts text file input.

Conclusion

One of the skills that differentiates advanced computer users from novices is the ability to transfer data between systems. The procedures described in this article should help with that process.

[Nanette Luoma is NAUG's graphic designer and layout specialist.]

Spreadsheet Format and Design

by Warren Williams and Cathleen Merritt

This is the last in a series of eight articles that describe how to get started with the AppleWorks spreadsheet. The authors assume that you read the previous articles in this series.

If you read the earlier articles in this series, you know how to design a template, format a cell, enter data, and construct and enter formulas. This month we will discuss the important issue of spreadsheet design. Our goal is to describe procedures that will make spreadsheet development easier and more rewarding.

Design Generalizable Templates

Most spreadsheet models are built in response to an immediate need by the author. You develop a gradebook when you need to track student grades. You build a stock management spreadsheet when you want to track your investments.

An important concept in spreadsheet development is to prepare flexible templates, not specific applications. When you need a gradebook spreadsheet, build a model that can accommodate different numbers of students, tests, and assignments. Think of how teachers might use the gradebook and try to accommodate those differences in your design.

Use Cell References, Not Constants

One way to enhance the flexibility of a template is to use cell references instead of constants in formulas. For example, the gradebook template in *Figures 1A* and *1B* use students' test scores to determine 60% of each student's grade. Assignments determine the remaining 40% of each grade. The formulas in column M do the necessary calculations.

Note that the formulas in *Figure 1A* use constants to determine the weight given to assignments and tests. Teachers who want to change the weight of the different components must change the underlying formula to accommodate their personal preference.

The model in *Figure 1B* uses a more flexible approach. The grading formula in this template uses

cell references instead of constants to determine the relative weights of the tests and assignments. That approach encourages users to customize the template for their own application.

Avoiding constants in formulas is a useful rule for template developers. The cell references in *Figure 1B* makes that model easier for teachers to use and understand.

Provide Documentation

Another obvious way to make templates more appealing is to provide clear instructions.

The traditional way to document a template is to include a word processor file that describes how to use the template. Every spreadsheet you develop should include carefully written, easy-to-understand documentation. (If you are insecure about your ability to write good documentation, consider working with a colleague who will write the instructions in return for templates you develop for his or her own use.)

Self-Documenting Templates

A less obvious way to offer directions is to make your templates "self-documenting" by including instructions in the template. For example, you can include an "opening screen" that contains an introduction and directions (see *Figure 2*). Although the spreadsheet does not offer the editing power available in AppleWorks' word processor module, you can type the text and use returns and spaces to get an attractive format on the screen.

Include a Table of Contents

Large templates can also benefit from a Table of Contents on the opening screen (see *Figure 3*). The Table of Contents makes it easier for users to

Novice Notes...

navigate around the spreadsheet and tells users how to find the documentation for the template.

If you develop a Table of Contents, remind users that AppleWorks' Find Command lets them jump to any cell coordinates in the Table.

If you prepare opening screens that contain an introduction or Table of Contents, be certain to put the cursor in cell A1 before saving your work. AppleWorks "remembers" where you leave the cursor when you issue a Save Command and returns to that location when you load the spreadsheet onto the desktop. By moving the cursor to cell A1 before saving the model, you insure that users see the opening screen when they load the template onto the desktop.

Include Off-Screen Directions

You can also document a template by including directions that are "hidden" off the screen. Enter the directions as text to the right of the work area. Then tell users to issue two Apple-Right-Arrow commands to jump to the instructions and an Apple-< (Apple-Comma) to return to the working portion of the model.

The template in *Figures 4A* and *4B* demonstrates this concept. The "work area" in *Figure 4* fills the screen when users enter data to compute their taxes. Users who have questions enter two Apple-Right-Arrows to jump to the documentation that appears in *Figure 4B*. Then they enter an Apple-< to return to the work area in *Figure 4A*.

Make Navigation Easier

You can enhance a spreadsheet template by preparing clearly labelled, attractively organized screens for each segment of the spreadsheet model. Use meaningful labels for each segment, and tell users

Figure 1: Gradebook Formulas

Figure 1A: Using Constants

File: GRADEBOOK REVIEW/ADD/CHANGE Escape: Main Menu

		Tests			Homework				Weight Avg.
Last Name	First Name	1	2	3	1	2	3	4	
Adams	John	85	85	80	75	80	80	85	82.0
Adams	John Q.	80	85	80	70	70	75	80	78.5
Harrison	William	70	75	70	70	80	75	90	74.5
Jackson	Andrew	75	70	75	70	75	80	90	75.5
Jefferson	Thomas	80	80	90	90	90	95	90	86.5
Madison	James	75	80	80	90	80	80	75	79.5
Monroe	James	85	85	80	85	85	80	70	82.0
Van Buren	Martin	65	70	70	70	65	60	70	67.5
Washington	George	90	85	85	80	80	80	85	84.5
Average =		78	79	79	78	78	78	82	78.9

M7: (Value, Layout-F1) (@AVG (D7...F7)*.6)+(@AVG (H7...K7)*.4)

Type entry or use ⌘ commands

3163K Avail.

Note constants in formula

Figure 1B: Using Cell References

File: GRADEBOOK REVIEW/ADD/CHANGE Escape: Main Menu

		Tests			Homework				Weight Avg.
Last Name	First Name	1	2	3	1	2	3	4	
Adams	John	85	85	80	75	80	80	85	82.0
Adams	John Q.	80	85	80	70	70	75	80	78.5
Harrison	William	70	75	70	70	80	75	90	74.5
Jackson	Andrew	75	70	75	70	75	80	90	75.5
Jefferson	Thomas	80	80	90	90	90	95	90	86.5
Madison	James	75	80	80	90	80	80	75	79.5
Monroe	James	85	85	80	85	85	80	70	82.0
Van Buren	Martin	65	70	70	70	65	60	70	67.5
Washington	George	90	85	85	80	80	80	85	84.5
Average =		78	79	79	78	78	78	82	78.9

M7: (Value, Layout-F1) (@AVG (D7...F7)*H1)+(@AVG (H7...K7)*H2)

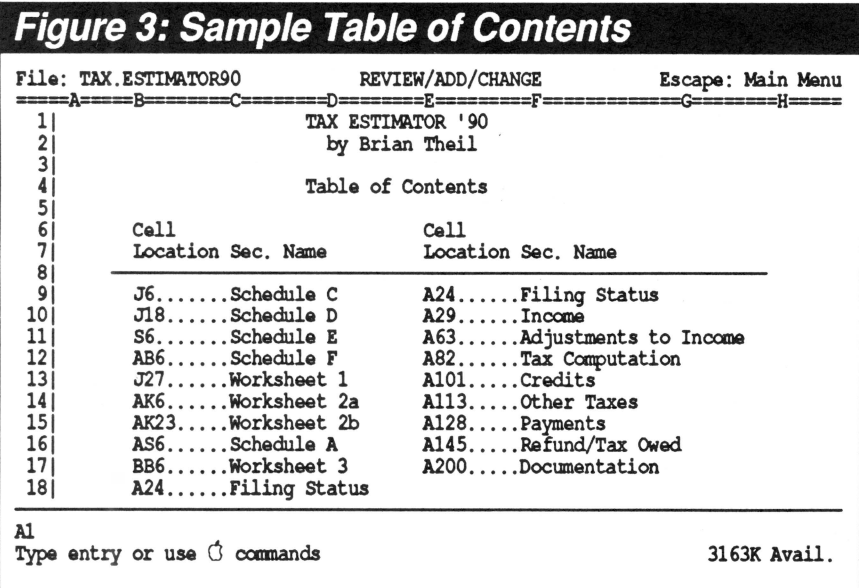
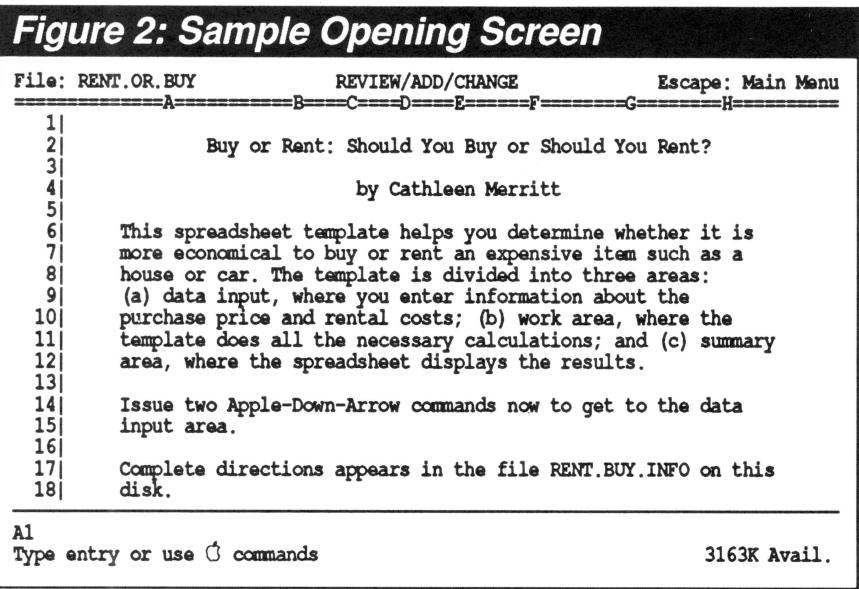
Type entry or use ⌘ commands

3163K Avail.

Same formula with cell references

to issue a Find Command to locate that text. For example, users can search for the string "Income" and locate "1040 Income Worksheet" in the example in *Figure 4A*. Similarly, searching for "Deductions" will locate "Schedule A: Itemized Deductions" elsewhere in this model.

You can make your model more attractive by distributing the segments over a wide area. That lets you build self-contained segments that are easier to



develop and use. For example, note the self-contained, clearly labelled nature of the 1040 Worksheet segment in *Figure 4A* that comes from NAUG's Federal Income Tax template.

Use Markers for Data Entry

The example in *Figure 4A* also demonstrates how to use the characters "<<<" as markers to designate a cell where users should enter data. You can also use a combination of hyphens and the "less than" symbol ("<") and "greater than" symbol (">") to generate arrows (--->) to designate areas where users enter data. If the computer beeps when you try to enter a symbol, you probably forgot to designate the cell as a label; remember to enter a quotation mark before entering the symbol.

Other Navigational Aids

There are at least two other ways to help users navigate around a spreadsheet template. One approach is to put an unusual text string such as two question marks in any cell that requires data from the user. Then tell users to enter an Apple-F to locate the cells that require data entry. Unfortunately, this approach causes other cells in the template to generate error messages until the user replaces the text with data. To avoid that problem, put the question marks in the cell next to the data entry location.

Using a text string as a marker also makes it easy to write a generalizable macro that moves the cursor to the next data entry cell in a model. If you use TimeOut UltraMacros, consider including this macro and the appropriate documentation in separate word processors files on your template disk.

How to Organize the Segments

By now it should be apparent that most large spreadsheet templates are developed in segments and that the spreadsheet developer decides where to place each segment in the model. Many developers put the segments at the left edge of the screen (see *Figure 5*) so you

can use the Up and Down-Arrow Keys and the Apple-1 through Apple-9 Keys to scroll through the model. That makes the template easier to navigate because users do not have to "hunt" for a particular segment.

Although models organized like the example in *Figure 5* are easy to use, they are difficult to develop; particularly when you want to insert or change the width of columns in the model. That is because spreadsheet programs manipulate columns globally. There is no way to tell AppleWorks to insert a column just in rows 1-15 or to change the width of column B in certain rows. If the segments of the model are all at the left-hand edge of the screen, all the segments must share the same column widths.

Figure 4: Gradebook Formulas

Figure 4A: What the User Sees

```

File: TAX.ESTIMATE90      REVIEW/ADD/CHANGE      Escape: Main Menu
-----A-----B-----C-----D-----E-----F-----G-----
21|
22|          == 1040 Worksheet ==          Directions ->
23|-----
24|Filing Status 1= single  2= head of household
25|3= married, separate return  4= married, joint          0<<<
26|return
27|Total number of exemptions claimed          0<<<
28|-----
29|****INCOME****
30|-----
31|Wages, Tips, Salaries, etc, including 401(k)          $0.00 <<<
32|
33|Your total interest income          $0.00 <<<
34|
35|Your total taxable dividends          $0.00 <<<
36|
37|Refunds of State and Local Taxes          $0.00 <<<
38|
A21: (Label, Protect-N)
Type entry or use ☐ commands          3180K Avail.

```

Figure 4B: The Larger Picture

```

-----A-----B-----C-----D-----E-----F-----G-----H-----I-----J-----K-----L-----M-----
21|
22|          == 1040 Worksheet ==          Directions ->
23|-----
24|Filing Status 1= single  2= head of household
25|3= married, separate return  4= married, joint          0<<<--Enter a 1, 2, 3, or 4.
26|return
27|Total number of exemptions claimed          0<<<--Enter a number here.
28|-----
29|****INCOME****
30|-----
31|Wages, Tips, Salaries, etc, including 401(k)          $0.00 <<<--Enter your total family W-2 income here.
32|
33|Your total interest income          $0.00 <<<--Enter your total interest income here.
34|
35|Your total taxable dividends          $0.00 <<<--Enter your total dividend income here.
36|
37|Refunds of State and Local Taxes          $0.00 <<<--Enter last year's state and city tax refunds here.
38|
39|Alimony Received          $0.00 <<<--Enter any alimony received here.
40|
41|Business Income (schedule C)          $0.00  --Leave this blank ... calculated from Schedule C.
42|
43|Capital Gains and other gains (schedule D)          $0.00  --Leave this blank ... calculated from Schedule D.
44|

```

The solution to this problem is to organize the segments so they follow the pattern depicted in *Figure 6*. Stepped segments make the format of every segment independent of each other. That lets you insert rows and columns and change the width of columns in one segment without affecting the format of any other segment.

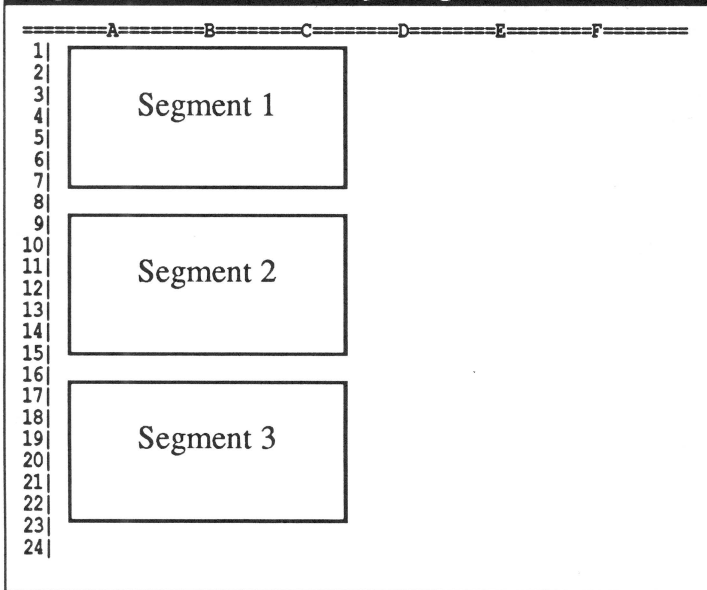
Unfortunately, templates with stepped segments are more difficult to navigate than vertically organized models. You will need a Table of Contents and clear directions for your model. Unusually com-

plex models can also benefit from a startup screen that contains a "map" of the different segments (see *Figure 7*).

Prepare Data Input and Output Segments

Another way to use segments to make templates easier to use and understand is to prepare models with separate data input, work, and output segments (see *Figure 7*). The user enters data into the input area and sees the results in the output segment. The computer does the calculations in the

Figure 5: A Vertically Organized Model



work area. For example, consider a template that compares the cost of buying and leasing a car. The data input area prompts the user to enter the costs and assumptions associated with both options. The work area does all the necessary calculations, and the output area presents the results of the calculations. Whenever possible, develop your templates so they include these three separate areas.

Most often you should put the input area near the top of the model followed by the work area and the output area. It is tempting to try to put the output segment near the input area so users do not have to scroll past the work area to look at their results. In some cases, this approach works. However, you must be careful about the order of calculation with these models. Remember that AppleWorks does its calculations in a cell-by-cell fashion, and the program must complete the calculations in the work area before it calculates the output segment. You can check your work by issuing an Apple-K command to order AppleWorks to recalculate the model. If the output changes, examine the design to see if you can structure the model so the calculations work correctly on the first pass. If you cannot solve that problem by redesigning the model or by changing the order of calculations from columns to rows, you should instruct users to issue multiple Apple-K commands before trusting the output. Alternatively, you can move the output segment to the bottom of the template.

Construction Tips

The global design issues we just described can contribute significantly to the quality of your templates. Here are some additional suggestions to help you work more efficiently. (We mentioned some of these ideas in the earlier articles in this series.)

1. Use paper and pencil to design the model. It is difficult to keep an overview of the template in the screen-sized "window" that AppleWorks offers in the spreadsheet module. Designing a model is easier if you prepare a rough "sketch" that shows the overall picture of your work and can help you visualize the template.

2. You should enter the column headings early in the template development process; these headings make it easier to enter the appropriate labels and formulas in the different cells in the model. However, if you enter the headings too soon, you will have to re-enter the headings each time you change the width of a column. Do not enter column headings until you know the minimum column width required by your data.

We suggest that you start by entering sample data into the model and use the Apple-L command to format that data. Then enter the column headings and expand the columns to accommodate the labels. Although it takes a few minutes to enter and format the sample data, you will recover that time by not re-entering the column headings in the model.

3. Test every formula. Spreadsheets are seductive because the results of your calculations are usually correctly formatted in the right location on the screen. However, the results of these calculations are often not what you expect. Your standard practice should be to test every formula you enter in any spreadsheet model. Repeat every test four times with (a) realistic numbers, (b) zeros, (c) large positive numbers, and (d) large negative numbers. These tests can be time consuming, but we cannot overstate the consequences of skipping this step.
4. Use AppleWorks' protection feature to protect your entries. Otherwise users will inadvertently change your formulas, labels, and formats. Con-

Novice Notes...

sider your work incomplete until you protect all the cells in the model. (See the article entitled "How to Improve Your Templates" in the *AppleWorks Handbook, Volume II* for step-by-step directions describing how to use the cell protection feature in AppleWorks.)

5. Always have another AppleWorks user try your template. Watch your colleague as he or she works. Explain nothing. Think of your template as an author thinks of a book; it must stand on its own without further explanation or comment. Treat each difficulty encountered by the user as a problem for you to solve. Keep careful notes; you will learn a lot about your work from this observation.

Conclusion

Now that you have the tools necessary to develop a spreadsheet model, you should review some of the more advanced articles that appeared in previous issues of the *AppleWorks Forum*. Specifically, you should read "How to Use the @IF Function (May 1989), "How to Use @CHOOSE" (June 1989), "How to Use @LOOKUP" (July 1989), "How to Manipulate Text in AppleWorks 3.0" (August 1989), and "Using And/Or Logic for More Powerful Applications" (September 1989).

Developing your skills also depends on your continued work with the spreadsheet module. A good way to get an understanding of spreadsheet templates is to examine some of the hundreds of templates that appear in NAUG's Public Domain Catalog. Many of those templates include interesting and useful ideas to help you develop your own models. Other templates have direct application to your needs and should prove immediately useful. We suggest that you select one or two particularly interesting templates and explore the design, format, and formulas in those models.

Figure 6: Stepped Spreadsheet Segments

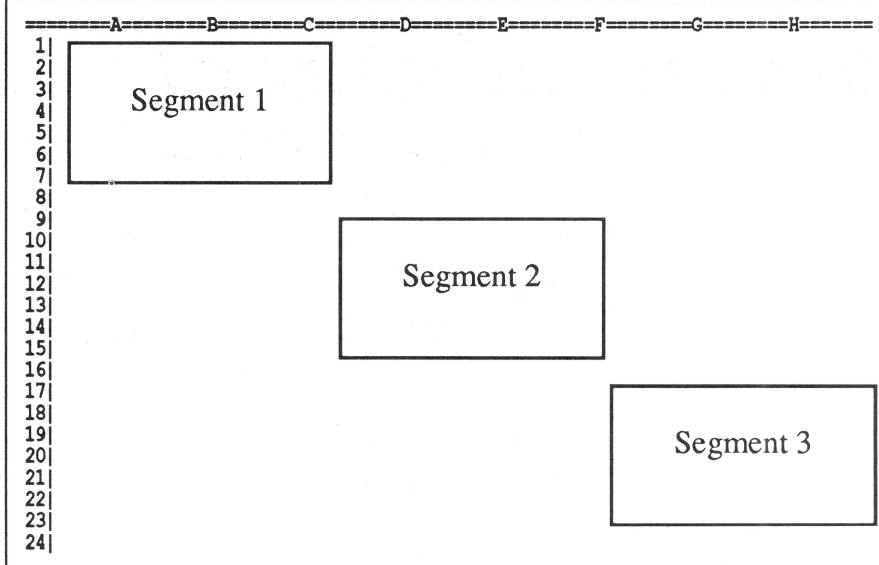
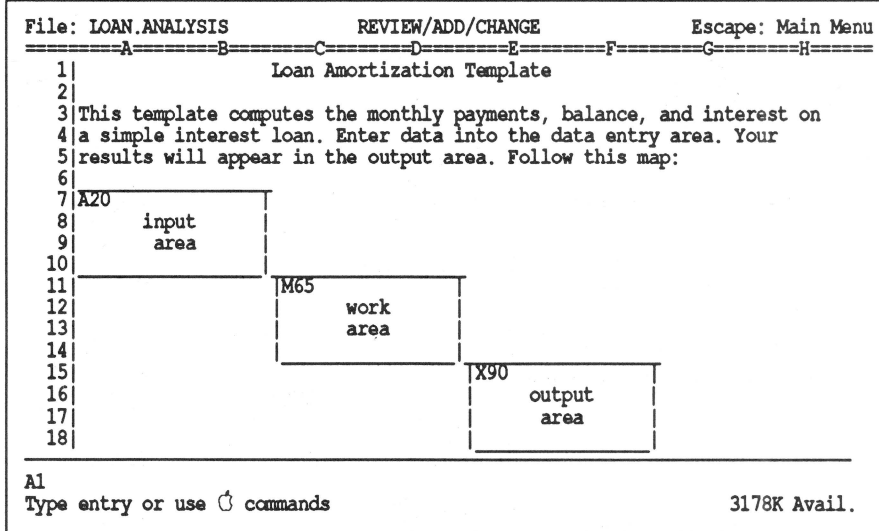


Figure 7: Startup Screen with a Map



It is often difficult for a spreadsheet novice to think of template development as an exciting process. But experienced authors will tell you about the pleasure they derive from the creative template development process. We hope that the techniques and suggestions we offered in this series of articles will encourage you in your efforts.

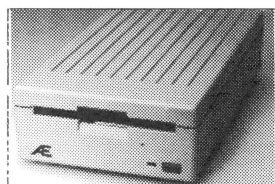
[Dr. Warren Williams is a Professor of Educational Technology at Eastern Michigan University. He is the President of NAUG and is a frequent contributor to the *AppleWorks Forum*.]

[Cathleen Merritt is the Director of NAUG and is the Editor of the *AppleWorks Forum*.]

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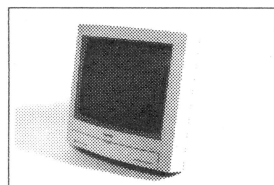
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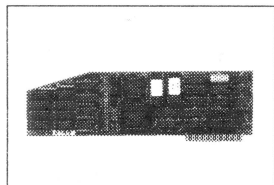
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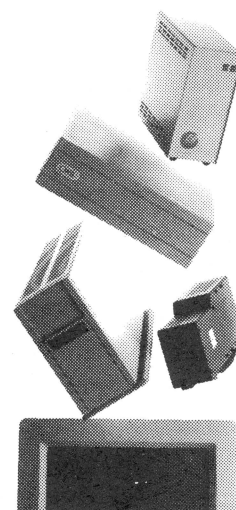
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Special Offers for NAUG Members

NAUG

Outline 3.0, Randy Brandt's excellent outlining program for AppleWorks, is now a Beagle Bros product. Until October 31, members can purchase Outline 3.0 for \$29.95 plus \$2.50 s/h. Starting November 1, the member price will increase to \$41.95. We urge members who are considering this excellent AppleWorks enhancement to order the product before the price increase. The list price for Outline 3.0 is now \$69.95. Order this product directly from NAUG, Box 87453, Canton, Michigan 48187; (313) 454-1115. Visa/MC accepted.

ActaSoft

ActaSoft recently announced the release of AlphaCheck Plus, Payroll Plus, and Reports Plus. These programs, which run within AppleWorks, represent significant upgrades to the company's AlphaCheck financial management program. (See the AppleWorks News article on page 29 for a description of these programs.)

NAUG member prices for ActaSoft products are:

	List Price	NAUG Price	s/h
AlphaCheck	\$49.95	\$29.95	\$3.50
AlphaCheck Plus	68.00	39.95	3.50
Payroll Plus	39.95	20.00	3.50
Reports Plus	29.95	15.00	3.50
AlphaCheck to AlphaCheck Plus upgrade:			
	19.95	15.00	2.50

Identify yourself as a NAUG member and include your NAUG membership number with your order to qualify for these special prices.

[ActaSoft, 19700 Wells Drive, Woodland Hills, California 91364; (818) 996-6731.]

Impact Printhead Service

The May 1990 issue of the *AppleWorks Forum* described how to clean and lubricate the printhead in an ImageWriter printer. As a result of publishing that article, we learned that a significant number of

NAUG members have damaged or defective print-heads in their ImageWriter and other printers. Members reported paying \$135-\$185 for rebuilt and new printheads.

NAUG has made arrangements for members to get printheads repaired at wholesale prices by Impact Printhead Service (IPS), one of the nation's largest printhead refurbishing companies. IPS refurbishes all major brands of dot matrix printheads including Apple, Epson, and Panasonic units. The prices for ImageWriter printheads are as follows:

ImageWriter I & II, new	\$85
ImageWriter I, refurbished	\$35
ImageWriter II, refurbished	\$46
ImageWriter LQ, refurbished	\$96

Buyers of new printheads can get a \$10 rebate by sending IPS the defective head.

To use the refurbishment service, call the company, identify yourself as a NAUG member, get an R.M.A. number, and ship your printhead to their office. Normal in-plant time for a complete refurbishing is 2-3 days, and the prices include second-day Federal Express delivery. All units are warranted for one year. IPS accepts both Visa and MasterCard.

The company occasionally has refurbished ImageWriter printheads in stock and can arrange for an exchange, but most often they refurbish the customer's printhead and return the original. Inquire about the availability and cost of an exchange when you call.

[Impact Printhead Service Company, 8701 Cross Park Drive, #101, Austin, Texas 78754; (800) 777-4323.]

JEM Software

DoubleData is an AppleWorks enhancement that lets you maintain up to 60 categories in a data base file. (See last month's issue of the *AppleWorks Forum* for a review of DoubleData.) Until December 1, NAUG members can buy DoubleData directly from JEM for \$22.50, including shipping.

Special Offers...

That represents a 25% discount from the program's regular \$30 price.

Until December 1, NAUG members who buy DoubleData can also get SpellCopy for the special price of \$10.50, including shipping (list price: \$12.50). SpellCopy is an AppleWorks 3.0 enhancement that automatically copies any files you specify, including the AppleWorks spelling dictionaries, onto a RAM disk and modifies AppleWorks so it looks on the RAM disk for its dictionaries.

[JEM Software, Box 1500Q, Arvada, Colorado 80001.]

Sensible Software

Until December 1, NAUG members can buy Sensible Grammar directly from the distributor for \$64.95 (plus \$2 s/h), a 35% discount from the regular list price of \$99.95. See the AppleWorks News article on page 29 of this issue of the *AppleWorks Forum* for a description of Sensible Grammar. Michigan residents must include 4% sales tax.

[Sensible Software, 335 East Big Beaver Road, Suite 207, Troy, Michigan 48063; (313) 528-1950.]

Supra Corporation

Until December 1, NAUG members can get a significant discount on the SupraModem 2400, Supra Corporation's 2400 baud external modem for Apple II, Macintosh, and MS-DOS computers. The SupraModem 2400, which is manufactured in the United States and features full Hayes compatibility, includes eight indicator lights, a front-mounted on/off switch, built-in lightning protection, and a speaker with a keyboard programmable volume control. The modem is housed in a convenient 1" x 4-5/8" x 6-1/2" aluminum case and accepts standard RS-232 connectors.

The SupraModem 2400 normally sells for \$149.95. However, until December 1, 1990, NAUG members can purchase this modem directly from the company for \$109 plus \$4 s/h. An RS-232 cable to connect the modem to an Apple Super Serial Card or to the modem port on the Apple IIGs costs an additional \$14. (The modem is compatible with Apple IIC computers, but the company does not stock cables for that computer.)

NAUG members who want to purchase the SupraModem 2400 at this special price must order by mail. Include a check, Visa, or MasterCard number and your NAUG membership number from the mailing label on this issue of the *AppleWorks Forum*. Telephone orders will not be accepted at this special price.

Write to: NAUG Offer, Supra Corporation, 1133 Commercial Way, Albany, Oregon 97321; (800) 727-8772.

Vitesse

Until December 1, NAUG members can get rebates on all Vitesse products directly from the manufacturer. Rebates are as follows:

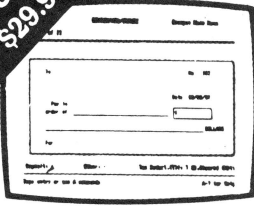
Quickie Hand Scanner	\$10.00
Salvation: Each product	2.50
Supreme (all Salvation products)	12.50
Harmonie Printer Drivers	5.00

See the AppleWorks News article on page 29 of this issue of the *AppleWorks Forum* for a brief description of these products.

To qualify for this rebate, purchase the product from any dealer and send the UPC code from the package, the original sales receipt dated between October 1 and December 1, 1990, and a copy of your mailing label from the *AppleWorks Forum* to Vitesse NAUG Rebate Offer, Box 929, La Puente, California 91747-0929.

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If you teach AppleWorks...

NAUG recently published two booklets designed to help AppleWorks beginners learn how to use the program's powerful data base and spreadsheet modules. The articles offer important tips and techniques to help users develop and manage data base and spreadsheet files. The tutorials in the booklets are written in an easy-to-follow, step-by-step fashion with lessons that students can complete at their own computers.

How to Get Started with the Database...

The four articles in this booklet describe how to create and manage AppleWorks data base files, how to create and print reports, and how to generate labels. An excellent instructional resource to help teach AppleWorks' data base module. 24-pages, 3-hole punched.

How to Get Started with the Spreadsheet...

The thirteen articles in this booklet describe how to create and manage AppleWorks spreadsheet templates, how to develop templates for various applications, how to develop attractively formatted models, how to write formulas, how to change cell formats, and how to change the default settings. More advanced articles in the booklet describe how to use the @IF, @CHOOSE, and @LOOKUP functions and how to manage text entries in your spreadsheet templates. An excellent tutorial for a unit on the AppleWorks spreadsheet module. 64-pages, 3-hole punched.

...here is some valuable help.

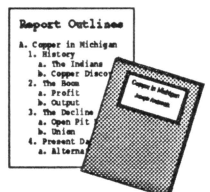
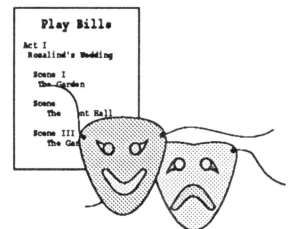
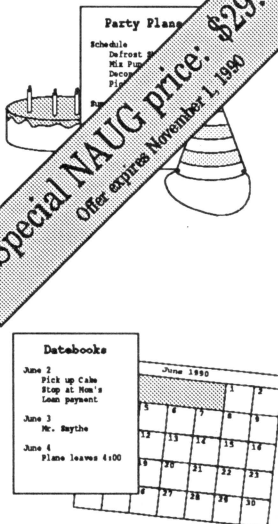
Outline 3.0

Outline 3.0 is a complete outlining package for AppleWorks. Once installed, Outline lets you enter topics and up to five levels of sub-topics in outline form. You can move, copy, sort, and expand the ideas in each topic and then remove the outline to complete your document. Outline 3.0 makes it easy to write reports, plan events, maintain a personal schedule, and keep lists. Requires AppleWorks 3.0.

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Cumulative Table of Contents

Vol. I Nº 1

August 1986

How to save formatted files on disk	3
Apple Computer asks for volunteers.....	3
Member needs help using a CP/M card with AppleWorks	3
How to use AppleWorks as a BASIC editor.....	4
How to write for the AppleWorks Forum.....	5
How to configure AppleWorks to work with custom printers.....	6
AppleWorks' impact on personal computing	10
How to use Apple products outside the U.S.....	11
How to use the "Arrange" Command.....	12
Welcome to NAUG's Electronic Forum	13
Arranging your data entry screen to facilitate data input	14

Vol. I Nº 4

November 1986

How we produce the AppleWorks Forum	2
How to get the data base to "count"	3
Laser 128 and Citizen printer problems.....	3
How to configure a Microtek parallel printer interface card.....	3
More AppleWorks books.....	3
Graphs and AppleWorks.....	4
How to use non-Apple printers.....	4
How to print entire documents in boldface (Part 1).....	5
How to store files on a RAM disk	7
What AppleWorks users should know about pathnames.....	8
MegaWorks, Sensible Speller and Pinpoint - Part II.....	10
How to prepare outlines.....	11
How to produce return address labels	12
Some comments about ReportWorks	12
Combining data bases with different categories.....	13
Other groups, recent additions, new templates	14
Downloading files using the XMODEM protocol	14

Vol. I Nº 5

December 1986

AppleWorks and the Apple ///	3
How to check if your printer is OK.....	3
How to hide data when you print a spreadsheet.....	3
Idea exchange for teachers	3
Spreadsheet bug follow-up.....	3
Do you have the latest version of your software?.....	4
Enhancing ProDOS on your AppleWorks disk	6
Getting pages to begin and end where you want	7
MacroWorks or AutoWorks: Which one should you use?.....	8
How to use a RAM disk to speed up a spelling checker.....	10
How to print column and row headings.....	11
Why a file won't fit on your data disk	12
How to print entire documents in boldface (Part 2).....	13
Comparison of AppleWorks spelling checkers.....	14

Vol. II Nº 1

January 1987

How to print on short pages and postcards.....	2
How to protect private AppleWorks data.....	3
How to use sub/superscripts in the data base	3
Solutions to October's spreadsheet bug	3
Gemini 10-X printer problems.....	3
Blown disk and printer interface problems.....	4

NAUG's education disk has 14 templates.....	4
How to recover lost data on damaged disks	4
How to create an index for an AppleWorks document.....	6
How to insert tabs into existing text.....	7
How to install Sensible Speller on a Corvus network.....	8
How to design formulas so you can use "Arrange"	10
Problems printing from the data base module	11
Tricks with calculated fields in reports.....	11
How to prepare tables for a document	11
Converting ASCII files for AppleWorks.....	12
Using AppleWorks' built in "pop-up" calculator.....	13

Vol. II Nº 2

February 1987

Staying in the AppleWorks environment.....	2
User needs scientific functions in the spreadsheet.....	2
Your joystick can lock up AppleWorks	2
Are there bugs in version 2.0 on the IIGs?.....	3
Configuring Panasonic & Spirit 80 printers.....	3
Solving Apple-H printer problems	3
How to configure RAM disks automatically	4
How to save keystrokes when formatting documents	6
How to keep from losing your work.....	7
Will template developers provide macros to help us out?.....	8
Using spreadsheets to get boldface print.....	9
How to print Mousetext pictures in AppleWorks documents.....	10
DemoWorks available only from NAUG	11
Using the "Arrange" command	11
How to create a table of contents for AppleWorks documents	12
All about DIF and ASCII files	14
How to use Mail Merge	15

Vol. II Nº 3

March 1987

AppleWorks 2.0 and RamWorks cards.....	2
Pinpoint Document Checker problems.....	2
How to solve RAM disk problems.....	2
How to underline with Epson FT and Spirit 80 printers.....	3
Apple Library Users Group uses AppleWorks.....	3
How to set up an auto-boot disk for RamWorks cards.....	4
AppleWorks 2 Expander for Applied Engineering cards.....	6
1040Works and AppleWorks can fill out your tax forms	7
"Sticky spaces": What they are and how to use them	8
How to work around a bug in Document Checker	9
How to transfer data between spreadsheets (Part 1)	10
How to improve your printouts: A review of FontWorks	11
How to get more than three selection rules.....	12
How to print on postcards and short pieces of paper.....	13
Move your TransWarp card out of slot 7	15
The data base module in version 2.0 is slower	15
How to use AutoWorks to maintain your disk catalog.....	15

Vol. II Nº 4

April 1987

How to transfer VisiCalc files.....	2
How to reduce keystrokes and disk swapping.....	3
Advantages of the Pinpoint Spell Checker	4
Is the version 2.0 upgrade worth \$50?.....	4
How to add up to 3 custom printers to AppleWorks 1.x and 2.x.....	5

How to print on 3-across labels	6
Data Base or Spreadsheet? Which one should you use?	9
How to transfer data between spreadsheets (Part 2)	13
The difference between what you see and what you get	14
Settings for nine popular printer interface cards	15
How to copy your printer setups onto version 2.0	15
How to finish working when your keyboard breaks	15
Using FontWorks to produce a document	16
Do you have the current version of ProDOS?	17
How to use the system clock on the IIGs	17
How to catch up with what's on NAUG's BBS	19

Vol. II Nº 5

May 1987

How to get "instant" AppleWorks	2
High ASCII codes	3
Data base problems with a time field	4
Solving AutoWorks ProDOS Directory problems	4
An easier way to add three custom printers to AppleWorks	5
Retaining your clipboard with mail merged documents	8
Using AppleWorks with 3.5-inch drives	10
Techniques for printing labels	11
Modifying Pinpoint so it doesn't dial a "1"	13
How to improve your templates — Part 1	15
A review of Point-to-Point	17
A review of RAMUP	20
Help for RAM disk users	22

Vol. II Nº 7

July 1987

Information about InfoMerge	2
Template developer wants to work with others	2
CP/M cards and AppleWorks	2
Printer control codes in AppleWorks	3
Printer settings for Mail Merge	3
AppleWorks and a standard TV	3
How to get a "Λ" symbol into printer control codes	4
Software for the Apple ///	4
Leave your computer on	5
How to keep your tax records organized	7
Member Helping Members technical support program	11
Use the spreadsheet as decision support software	16
Using AppleWorks to teach Social Studies	17
A list of the cables to use with your computer	18
How to underline in data base reports	20
How to produce bibliographies	20
How to print page numbers — Part 1	22
How to print a single page	23

Vol. II Nº 10

October 1987

New enhancements for AppleWorks	2
A student leaves his mark	3
How to copy SEG.PR	3
Help setting up auto-boot disks	3
Member needs a command tree	4
Lengthy reports creep down page	4
Local NAUG groups?	4
How to improve AppleWorks' tabs system	5
Help setting up Okidata printers	7
Templates: What they are and how to use them	8
How to enter Control-@ symbols in printer codes	8
ImageWriter II super- and subscripts	9
How to use the Copy II+ sector editor	9
Members Helping Members-Eastern Time Zone	11
A review of Quicken	16
How to line up dollar amounts in spreadsheets	17
How to get footnotes in documents	19
An alternative to footnotes	20
Limitations of the AppleWorks spreadsheet	21

Vol. II Nº 11

November 1987

How to convert data base entries to "Date" format	2
Amending the "faster startup" patch	3
Advice for using Members Helping Members	3
Member needs help with an ImageWriter II	4
How to use @ROUND in the spreadsheet	4
Quicken: How to go from check register to spreadsheet	5

Error on the Seminar Template disk	7
Printrix: Two reviews	8
Members Helping Members-Central Time Zone	11
Integrating the data base and spreadsheet - Part I	14
How to get blank cells using @IF	17
A free "upgrade" for IIGs owners	18
How to solve printer problems when using a RAM disk	19
How to print addresses on envelopes	21
Late news from Applied Engineering	23

Vol. II, Nº 12

December 1987

Avoid hyphens in data base files	2
Mysterious tildes in spell-checked documents	2
Batch processing with Pinpoint's Document Checker	3
Disk drive woes with the Apple IIGs	3
Observations on TimeOut AppleWorks add-ons	4
Is the Version 2.0 upgrade offer gone for long?	4
Good prices on equipment and supplies	4
Customizing AppleWorks with a sector editor - Part I	5
A mail merge clipboard shortcut	9
Printing tricks with Sideways	10
Mountain, Pacific, and foreign volunteers	11
Integrating the data base and spreadsheet — Part II	15
Beagle Bros update	18
Making the most of your peripheral-slot memory card	19
Techniques to handle dates in a data base	22
Avoiding extra-wide margins in the word processor	22
A shortcut for preparing mail merge documents	23

Vol. III Nº 1

January 1988

How to convert AppleWriter files into AppleWorks format	2
Command tree publisher offers discount to members	2
Where to get help with 1040Works	2
A review of UltraMacros	5
Move group totals from data base to spreadsheet - Part III	8
Members Helping Members Eastern Time Zone	11
Customize AppleWorks with a sector editor - Part II	16
ImageWriter II sheet feeder and legal-sized documents	19
Bulletin Board receives 5,000th call	19
PatchMania review: Modifications for AppleWorks 2.0	21

Vol. III Nº 2

February 1988

Be cautious about the Zip Chip accelerator	2
How to connect two printers to an Apple IIGs	3
How to make the best use of 3.5-inch disks	3
Problems with 3.5-inch disk drives	4
How to use the "Indent" Command	5
Template developers can now write stand-alone macros	6
Four ways to enter Control-@ printer codes	8
Special offers on software, hardware for NAUG members	9
How to ensure you have the latest version of TimeOut	9
Easier ways to back up data files	10
Members Helping Members Central Time Zone	11
How to get started with TimeOut accessories	14
How to update to ProDOS 8 version 1.4	17
How to get your clock card working right	17
Review of TimeOut DeskTools	19
How to update the Electronic Index Disk	23

Vol. III Nº 3

March 1988

A preview of future AppleWorks enhancements	2
Claris offers upgrade to version 2.0	3
How to run AppleWorks on MS-DOS computers	3
How to convert Bank Street Writer files into AppleWorks	4
Correction to the ImageWriter II sheet feeder tip	5
A patch to fix a bug in PatchMania	5
How to print special symbols and foreign characters	7
Review of TimeOut FileMaster	9
How to use expanded memory to speed up TimeOut	11
How to decipher "Λ" marks in documents	13
How to use RAMUP with 3.5-inch disks	14
Ten techniques to improve your labels	16
How to recover damaged data base files	20

Vol. III Nº 4

April 1988

Enhanced AppleWorks needs enhanced hardware	2
How to recreate a data base file	4
Deciphering a "No 'SYS' Files" message	5
How to get school packs of AppleWorks	5
Lissner and Brandt to address NAUG's AppleFest seminar	5
Claris announces network-compatible AppleWorks	6
Make report names meaningful	6
How to develop invoices and other business templates	8
How to plan for business forms	10
How to use the Copy Command	11
How to handle tax-free transactions	13
Review of TimeOut Graph	16
Beagle Bros revises TimeOut upgrade policy	20
How to get help with AppleWorks modules	23
Members Helping Members Data Base available on disk	26
Applied Engineering releases updated expansion software	27

Vol. III Nº 5

May 1988

Exciting announcements due at AppleFest	2
NAUG members asked to test a new communications service	3
How to replace data in the data base	3
Transferring numbers from the spreadsheet to data base	4
How to get slashed zeros	4
Limitations on ProDOS pathnames	4
Using AppleWorks in foreign languages	7
An easy way to set DIP switches	7
How to add printer codes to interface card settings	8
Control code commands for foreign languages	8
How to send a printer code from the spreadsheet module	9
Conversion table between foreign languages	10
How to display foreign characters on an Apple IIe	11
Dealers who sell foreign-language chips and AppleWorks	11
How to print foreign words and phrases	12
New hardware and software from Applied Engineering	13
How to get string logic in the spreadsheet module	15
A better way to pause each page	16
New AppleWorks enhancements from JEM software	19
Using spelling checkers with RAM disks	20
How to include notes in the data base	21
How to get counts in the data base	22

Vol. III Nº 6

June 1988

Hardware you need to run TimeOut	2
Preserving the format of spreadsheet cells	2
Autoboot disks for TimeOut-enhanced AppleWorks	3
Apple IIc hard disk options	3
How to avoid blank labels	4
Subdirectories on 3.5-inch disks	4
TimeOut QuickSpell: A review	6
How to get started with NAUG's BBS	10
Organization of the Electronic Forum	13
How to transfer files into AppleWriter and FredWriter	14
Inexpensive TimeOut updates	15
How to become an intermediate level user	16
Data Base File Repair Kit available to NAUG members	18
An easier way to print 3-across labels	20
How to boot AppleWorks from 3.5-inch disk drives	21
100 Ways to improve AppleWorks	22

Vol. III Nº 7

July 1988

Robert Lissner hints at a new version of AppleWorks	2
How to set up AppleWorks for Grappler+ interface cards	3
How to delete damaged files	3
How to get ASCII files without Returns	4
How to make TimeOut memory-resident	4
Zip Chip review	6
Alternatives to the Zip Chip	7
How to run game software on the Zip Chip	10
An easier way to get underlining and boldface	11
A macro that counts data base records	11
How to save copies of screens on disk	12
TimeOut SuperFonts: A review	14
How to use SuperFonts' alternate character sets	17

Printer and interface cards supported by SuperFonts	18
Why you cannot use a print buffer with SuperFonts or Printrix	19
How to use the AppleWorks clipboard	21

Vol. III Nº 8

August 1988

Important AppleWorks developments	2
How to recover files converted to DOS 3.3	3
Patch to change AppleWorks' cursor	3
A technique for using 3.5-inch disks with AppleWorks	4
Bootting from a hard disk	4
Patch to improve foreign language screen	5
Claris announces version 2.1 of AppleWorks	7
New enhancement programs required with AppleWorks 2.1	8
Should you update to AppleWorks 2.1?	9
How to get special printing effects with dot matrix printers	10
How to "debug" custom printer effects	12
Custom letterhead template	14
Hints for using SuperFonts	17
How to get the first line to print correctly	18
How to prepare lists for the word processor	19
How to use the clipboard to save keystrokes	21
Clipboard limitations	21
An autoload macro for TimeOut	23
How to get footnotes in AppleWorks	24
A powerful footnoting alternative	25
How to get help recovering damaged disks	26
Beagle adds Paint module to TimeOut series	27

Vol. III Nº 9

September 1988

How a "print buffer" works	2
Why you get short lines when you print	2
Information about a macro users group	3
Another patch to change the AppleWorks cursor	3
How to transfer files into AppleWorks — Part 1	4
File transfer resources	7
How to handle 9-digit zip codes	8
Two ways to print a single page	9
Macro Primer: How to get started with macros — Part 1	10
Commands UltraMacros adds to AppleWorks	11
Macros built into UltraMacros	12
TimeOut Thesaurus: A review	14
Recent additions to NAUG's AppleWorks wish list	17
How to get multi-line headers in the word processor	18
How to prevent Apple IIcs lockups	20
How to protect your privacy	20
SpreadTools: Useful tools for the spreadsheet user	21
NAUG available on CompuServe and AppleLink - PE	21

Vol. III Nº 10

October 1988

A defense of Printrix	2
How to get single space output in foreign languages	2
Use AutoWorks to fill out printed forms	3
Patch to delete unwanted spaces	3
Beagle Buddy Program Expanded	5
Macro Primer: How to create keyboard macros	6
How to transfer files from laptop computers into AppleWorks	9
TimeOut Data Converter adds power to AppleWorks	13
Use SuperFonts to print special characters	14
Keeping your disks organized	16
How to print headings and comments in tables reports	19
Two resources to help you teach AppleWorks	21

Vol. III Nº 11

November 1988

Lissner relates beginnings of AppleWorks	2
Free offer to recover damaged files	3
SEG.PR format altered in AppleWorks 2.1	3
How to prepare tables in proportional fonts	3
AppleWorks news from AppleFest	5
Claris announces AppleWorks upgrade program	7
Where to get help with AppleWorks	8
How to speed up spreadsheet applications	9
How to transfer AppleWorks data to Macintosh computers	10
Working with Microsoft Works files	12
Where to get conversion software	12

How to determine column widths in tables format reports.....	15
Macro Primer: An introduction to compiled macros	17
Common UltraMacros tokens.....	18
Anatomy of a macro.....	19
An easy way to insert footnotes.....	21
How to "undelete" text	22

Vol. III N° 12 December 1988

How to get improved output from ImageWriter II printers	2
How to use font disks from the Public Domain Library	2
Solutions to problems making 5.25-inch copies of AppleWorks 2.1.....	3
How to eliminate blank pages in documents.....	5
How to get more from QuickSpell	6
How to avoid Apple IIGs lock-ups.....	7
Macro Primer: Understanding compiled macros.....	8
How to annotate macros	10
Enhanced output from dot matrix printers	13
How to control print quality on the ImageWriter II	14
High-quality output from Epson printers.....	14
How to differentiate between zeros and blanks	17
Three ways to detect erroneous entries.....	18
Inexpensive AppleWorks bulletin boards	20

Vol. IV N° 1 January 1989

How to use AppleWorks with CompuServe.....	2
How to align paper in your printer	2
How to print data base labels longer than 15 lines	3
How to move non-adjacent spreadsheet rows.....	4
Correction to AppleLink's documentation	4
Site license options for TimeOut modules	5
AppleWorks GS: The beginning of a new generation.....	6
Macro Primer: Task files: What they are and how to use them.....	13
12 disks added to NAUG's Public Domain Library.....	17
New Apple IIGs speed-up card.....	19
Late Nite Patches: useful AppleWorks patches and more.....	20
Free CompuServe offer for NAUG members.....	23
How to save keystrokes in AppleWorks.....	23

Vol. IV N° 2 February 1989

AppleWorks GS: Be cautious about this exciting product.....	2
How to view more than 30 TimeOut modules	3
AppleWorks and Apple's Daisy Wheel Printer.....	3
Is NAUG selling second-hand software?.....	3
AppleWorks and IBMs	4
Problems controlling top margins	4
Kudos for CrossWorks.....	5
How to print envelopes with AppleWorks	6
An inexpensive source of supplies.....	8
How to avoid typing envelopes	9
Macro Primer: An introduction to UltraMacros programming.....	11
Special discounts on accelerator cards and chips.....	14
How to enter text in data base reports	15
Disk envelopes help you find files	15
Four AppleWorks products that do your taxes.....	16
Claris announces technical support publication.....	22
AppleWorks patch that shows remaining desktop space.....	23

Vol. IV N° 3 March 1989

Why spreadsheet formulas yield unexpected results.....	2
Where to find custom QuickSpell dictionaries.....	3
How to get better output from Epson printers.....	3
Solution for Chinook disk drive problem	4
How to manage more than 30 TimeOut modules.....	4
EuroWorks: Foreign language output from AppleWorks.....	6
Hard Disk Primer: An introduction to hard disk drives.....	9
More RAM, 3.5-inch disks, hard disks: Which are for you?	10
Macro Primer: An introduction to branching	13
Complete ASCII conversion table for Apple II keystrokes.....	16
Damaged files: Why they occur and how to get them back	18
7 new disks added to NAUG's Public Domain Library.....	20
How to use the extra space on your AppleWorks disk.....	22
A patch to keep a file marked "unchanged" after printing.....	23

Vol. IV N° 4

April 1989

How to produce APA-style documents	2
How to test printer codes	2
How to transfer values between spreadsheets	3
How to fill out forms with mail merge	3
Why data base records are already filled in.....	4
The RocketChip: A new way to speed up AppleWorks.....	5
How to right-justify text in the word processor.....	10
RepairWorks Review: Recovers damaged AppleWorks files.....	11
How to load ASCII files into AppleWorks.....	13
How to speed up large AppleWorks spreadsheets.....	14
Hard Disk Primer: How to select a hard disk drive.....	15
Sixteen hard disk systems compared.....	18
A few words about Sider drives	20
Macro Primer: How to get AppleWorks to read the screen	22
A macro that rearranges data base entries	24
Tokens described in the Macro Primer series.....	26
A+ and inCider magazines merge	27
New AppleWorks-compatible communications utility.....	27
Claris releases free AppleWorks GS update.....	28

Vol. IV N° 5

May 1989

Can you distribute AppleWorks data files?	2
Why the ImageWriter sometimes prints garbage	2
Consider getting an Apple ///	3
Member needs help using a scanner	3
More fonts printouts now available	4
How to align paper in an ImageWriter II	4
Branching spreadsheets: How to use the @IF function.....	6
Cross-Works Review.....	10
New software installed on NAUG's BBS	13
Beagle Bros announces new software, upgrade offer.....	14
How to print the current date in boilerplate text.....	16
Hard Disk Primer: How to set up a disk drive	18
AppleWorks GS: Use startup files to save keystrokes.....	22
Exchange your ImageWriter LQ	23
Zip announces new Apple II speedup options	23
Macro Primer: An introduction to variables.....	24

Vol. IV N° 6

June 1989

AppleWorks 3.0: Rumors and Facts	2
How to distinguish between a zero, and the letter "O".....	3
How to use "Bird's Better Bye" to select programs	3
A shortcut that does not work with the AW 2 Expander	3
Is there right justification in the word processor?	4
An AppleWorks 2.0 data base bug.....	4
Why Apple-Ø moves the cursor	4
Branching spreadsheets: How to use @CHOOSE	5
How to extend the life of printer ribbons.....	9
Hard Disk Primer: How to install an operating system	12
What happens when you boot ProDOS?	13
Relative speed of AppleWorks on different computers	18
Macro Primer: How to write macros that execute repetitive tasks	20
TimeOut Sidespread Review	23
How to get the most attractive output from SideSpread.....	24
How to use Data Converter with Applied Engineering cards.....	25
New AppleWorks-compatible hardware and software.....	27

Vol. IV N° 7

July 1989

Claris releases AppleWorks 3.0	2
The features of AppleWorks 3.0.....	3
New word processor, data base and spreadsheet functions.....	3
A history of AppleWorks 3.0	5
Limits and capacities of the program.....	6
How to upgrade to AppleWorks 3.0.....	7
What you should know about enhancing AppleWorks 3.0.....	11
Randy Brandt writes about undocumented features.....	14
Branching spreadsheets: @LOOKUP.....	16
Macro Primer: Using subroutines to simplify macros	20
Hard Disk Primer: How to install a disk management system	26

Vol. IV Nº 8**August 1989**

Happy third anniversary to NAUG	2
How to rename disks and files	2
How to solve AppleWorks problems caused by Print Shop	3
How to enter caret marks in printer codes	3
How to add memory to a Laser 128EX	4
How to use a LaserWriter with AppleWorks: Part 1	5
Hard Disk Primer: How to install AppleWorks and TimeOut	14
How to manipulate text in AppleWorks 3.0 spreadsheets	19
Macro Primer: How to get more power from branching macros	25
Status of AppleWorks 3.0	32

Vol. IV Nº 9**September 1989**

Control panel settings to print single sheets of paper	2
How to get AppleWorks 3.0 file formats	4
How to produce numbered tickets	4
How to use a LaserWriter with AppleWorks: Part 2	5
Super Serial Card settings for the LaserWriter	6
Special discounts available for NAUG members	10
Spreadsheet Tip: How to use "and/or" logic	14
Spreadsheet Tip: How to manage large formulas	16
Hard Disk Primer: How to manage your hard disk	18
Macro Primer: Advanced macro programming commands	23
News of interest to AppleWorks users	30
New Public Domain software: Dictionary and macro disks	32

Vol. IV Nº 10**October 1989**

Mixing SuperFonts text with standard AppleWorks	2
How to get full justification and proportional spacing	2
How to use AppleWorks 3.0 with 5.25-inch disks	3
NAUG's Electronic Forum now a multi-user system	7
UltraMacros 3.0: Enhancements to existing features	10
Macro Primer: How to convert macros for AppleWorks 3.0	14
Special discounts available for NAUG members	15
News about AppleWorks products	16
AlphaCheck: Help for your financial records	19
Use a LaserWriter with AppleWorks: Advanced techniques - 1	25
How to get better super/subscripts on an ImageWriter	30
8 new disks added to NAUG's Public Domain Library	32

Vol. IV Nº 11**November 1989**

Problems with Zip Technology	2
How to use AppleWorks to check your phone bill	2
How to use QuickSpell dictionaries with RAM disks	2
Claris describes how to avoid surprises with AppleWorks 3.0	5
How to use SuperFonts to enhance your presentations	10
How to convert Print Shop graphics for use by SuperFonts	12
How to get started with the data base module	17
Macro Primer: How to use the new features of UltraMacros 3.0	21
Five new disks added to the Public Domain Library	27
Claris 10-pack upgrade offer	28
Beagle ships TimeOut 3.0	28
How to get Palatino output from your LaserWriter	29

Vol. IV Nº 12**December 1989**

More about configuring AppleWorks 3.0 for 5.25-inch disks	2
Proportional fonts and full justification	2
Lower prices on PC Transporter	3
Beagle Bros announces AW 3.0 Companion	3
Hints and ideas for the spell checker	5
How to use the spell checker with a RAM disk	5
How to add graphics to documents with SuperFonts	7
New products from JEM Software	10
How to arrange and select data base records	11
AppleWorks 3.0 Patch Disk in NAUG's Public Domain Library	16
How to get fully justified output from a LaserWriter	18
Claris releases version 1.1 of AppleWorks GS	24
19 new AppleWorks GS disks in NAUG's Public Domain Library	24
How to debug your macros	25
How to schedule events with AppleWorks	29

Vol. V Nº 1**January 1990**

How to use a Z-RAM clock with AppleWorks 3.0	2
How to transfer files from a Macintosh to AppleWorks	2
How to use AppleWorks 3.0 files with AppleWorks 2.x	3
How to count words with AppleWorks 3.0	3
How to incorporate scanned images into AppleWorks	5
How to use a ThunderScan scanner	5
How to use the "quick save" feature in AppleWorks 3.0	10
How to produce tables format reports	11
How to get LaserWriter output from the serial port on any Apple II	17
Summary of all the tokens used by UltraMacros	26
New hardware and software for AppleWorks users	33
Applied Engineering introduces TransWarp II	33
Beagle updates UltraMacros and TeleComm	33
Checkmate Technology offers RAM disk software	33
How to update your Electronic Index for 1990	35

Vol. V Nº 2**February 1990**

Clarifying the confusion about patching AppleWorks 3.0	2
Solutions for problems with Panasonic printers	2
How to solve the "Duplicate volumes on line" problem	2
How to solve AppleWorks 3.0 dictionary problems	3
Claris announces network version of AppleWorks 3.0	3
Patches that customize AppleWorks 3.0 — Part 1	5
Everything you should know about quitting AppleWorks	9
How to produce labels format reports	15
AW 3.0 Companion and SuperPatch: A product comparison	21
AW 3.0 Patch Disk v. 1.2, GS/OS 5.0.2, and FormsWorks available	26
How to create letterheads with AppleWorks and a LaserWriter	28

Vol. V Nº 3**March 1990**

Recommended AppleWorks tax templates	2
Problems patching AppleWorks 3.0	2
Help installing UltraMacros 3.1	3
UltraMacros and the No Slot Clock	4
Quick tip doesn't work	4
AppleWorks screen goes blank	4
How to use AppleWorks GS to recover AppleWorks data base files	5
Special AppleWorks 3.0 upgrade offer	5
How to get started with the spreadsheet module—Part 1	6
Eight patches that customize AppleWorks	10
Free command summary for NAUG's bulletin board	17
How to use AppleWorks 3.0 with one disk drive	19
How to identify your AppleWorks 3.0 files	20
Bank Sizer, Fontasm, Microbiology, and Irish Immigrant GS	21
Volunteers who recover files from damaged disks	24
Late news about 19 AppleWorks products	27
How to use GS/OS with AppleTalk	31
Current version numbers for TimeOut modules and JEM software	33

Vol. V Nº 4**April 1990**

Zip replacing defective chips	2
Don't lock AppleWorks	2
Patched AppleWorks 3.0 tabs won't work	3
French AppleWorks and TimeOut	3
AppleWorks Down Under "Down Under"	4
How to count words in AppleWorks 3.0	4
Converting 9-track tapes to AppleWorks	4
Problems patching AppleWorks	5
AppleWorks 3.0 file compatibility	5
Amateur radio and AppleWorks	5
AppleWorks GS version 1.1 review—Overview	7
How to get better text display on your word processor screen	11
How to prepare your first spreadsheet—Part 2	13
NAUG's new bulletin board system	18
Special discount prices available to NAUG members	19
Ten patches that customize AppleWorks 3.0	22
Late news about ten AppleWorks products	27
7 new disks in NAUG's Public Domain Library	29
Beagle Bros announces TextTools and MacroEase	30
How to copy records between files with AppleWorks 3.0	32
Macros that expand and shrink spreadsheet columns	33
More than 90 members who offer help with AppleWorks utilities	34

Vol. V N° 5

May 1990

Z-Ram Ultra Clock and AppleWorks.....	2
Epson Printers and AppleWorks 3.0.....	2
Why there is "garbage" in word processor files.....	3
Control codes for 24 interface cards.....	3
TimeOut ReportWriter: A powerful report generator.....	5
How to prepare your first spreadsheet—Part 3.....	12
How to improve the output from your ImageWriter.....	22
Turn off your IIGS print buffer.....	23
AppleWorks GS version 1.1 review—Word Processor.....	25
An enhanced word processor marking system.....	29
Late news about ten AppleWorks products.....	30
14 new disks in NAUG's Public Domain Library.....	32
Members who offer help with printers and hardware.....	34

Vol. V N° 6

June 1990

How to speed up TransWarp GS cards.....	2
How to solve Copy II+ problems.....	2
Laptop computers and AppleWorks.....	3
Inexpensive hard drives for Apple IIs.....	4
Hardware requirements for RepairWorks compatibility.....	4
Technical support by fax.....	4
How to preserve cell formats in AppleWorks 3.0.....	5
The AppleWorks boot up process.....	7
Beagle Releases TextTools, MacroEase, and S.F. Activity Guide.....	11
FlexiCal: An automated appointment calendar.....	14
How to get faster scrolling on an Apple IIGS.....	21
How to add an alarm clock macro to AppleWorks.....	22
Change-A-File and CheckWorks in NAUG's Library.....	24
How to prepare your first spreadsheet — Part 4.....	25
Was your AppleWorks patched?.....	31
Should you use QuicksPELL?.....	33
How to get help with Apple IIGS hardware and software.....	34

Vol. V N° 7

July 1990

How to print on 1.75-inch labels.....	2
Problems with TimeOut TeleComm.....	2
How to add rows to a spreadsheet.....	3
How to maintain your Electronic Index Disk.....	3
Apple II accelerators: Which one is best?.....	5
How to solve Zip Chip/Apple memory compatibility problems.....	7
The ins and outs of the AppleWorks Organizer.....	11
Macros that prepare frequency distributions.....	20
How to add vertical lines to a spreadsheet.....	22
ReportWriter: An introduction to relational reporting.....	25
AppleWorks GS 1.1 review: The page layout module.....	28
Three special offers for NAUG members.....	33
How to get help with Beagle Bros enhancements.....	34

Vol. V N° 8

August 1990

What happens when your battery fails?.....	2
The history of "Boilerplate".....	2
How to use expanded memory.....	3
Problems getting Zip Chips.....	3
HP's DeskJet Printer: Laser quality output from AppleWorks.....	4
An easy way to find your place in the word processor.....	7
How to add summaries to a spreadsheet.....	10
How to capture an image of your screen.....	16
How to page-number long documents.....	18
How AppleWorks manages computer memory.....	19
Late news about eight AppleWorks products.....	25
BBS News, special offers, and publications from NAUG.....	27
Seven new disks in NAUG's library.....	29
How to generate your first ReportWriter report — Part 1.....	31
Help with AppleWorks compatible software and desktop publishing.....	34

Vol. V N° 9

September 1990

How to solve problems with dates in a data base.....	2
Does my custom dictionary work?.....	2
More about the HP DeskJet printer.....	3
Member recommends a service company.....	3
Review: DoubleData enhances the AppleWorks data base.....	5
How DoubleData works.....	6
How to change the AppleWorks spreadsheet defaults.....	10
Late news about 15 AppleWorks products.....	15
Randy Brandt answers interesting questions about AppleWorks.....	19
You know you're in trouble when.....	21
How to generate your first ReportWriter report — Part 2.....	23
Five special offers for NAUG members.....	30
Four new disks in the NAUG library.....	32
A macro that produces a menu of your special printer codes.....	33
Help with AppleWorks applications and telecommunications.....	34

Vol. V N° 10

October 1990

Use your credit card when ordering by mail.....	2
Member thanks a volunteer.....	2
How to save money on DeskJet cartridges.....	3
German AppleWorks 3.0 available.....	3
AppleWorks GS page layout bug.....	3
Why doesn't my mouse work?.....	4
How to transfer AppleWorks and AWGS files to the Macintosh.....	5
Spreadsheet format and design techniques.....	10
Special offers for NAUG members.....	17
Macros that print two-sided documents.....	20
ReportWriter: how to generate a relational report.....	22
Late news for AppleWorks users.....	29
150 Members who offer help with the AppleWorks modules.....	34

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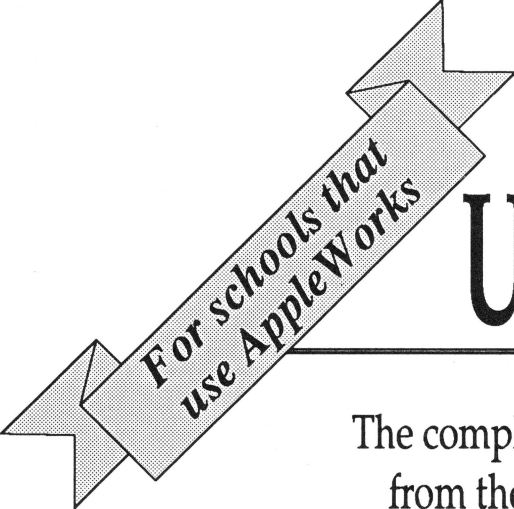
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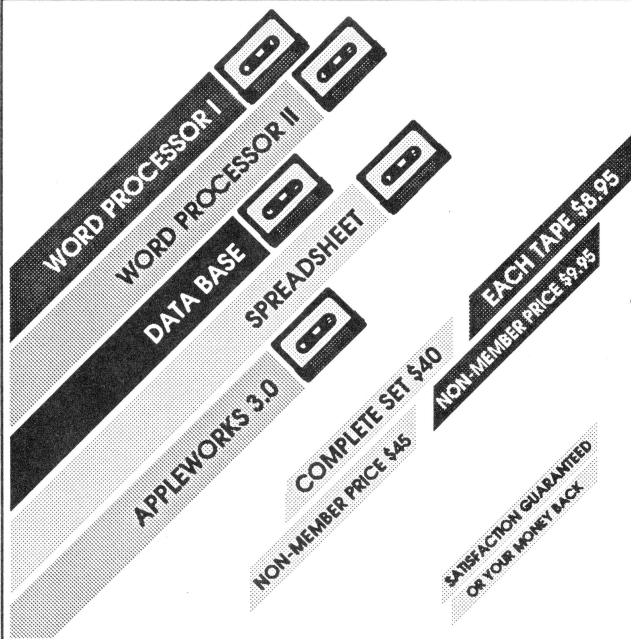
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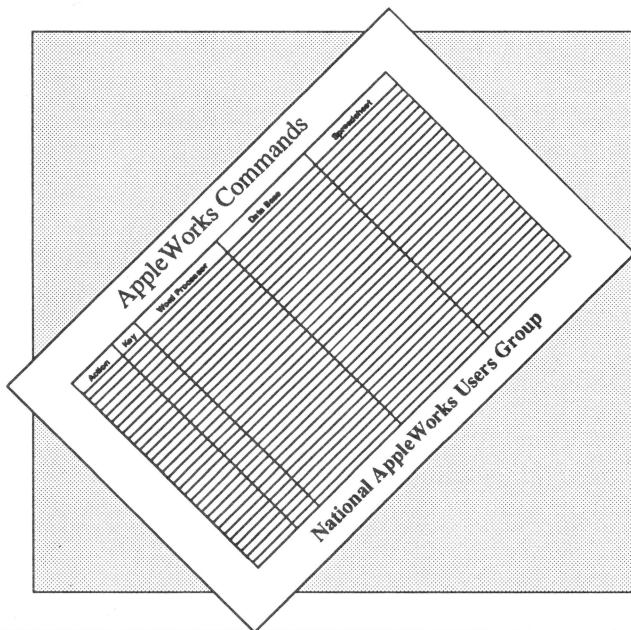
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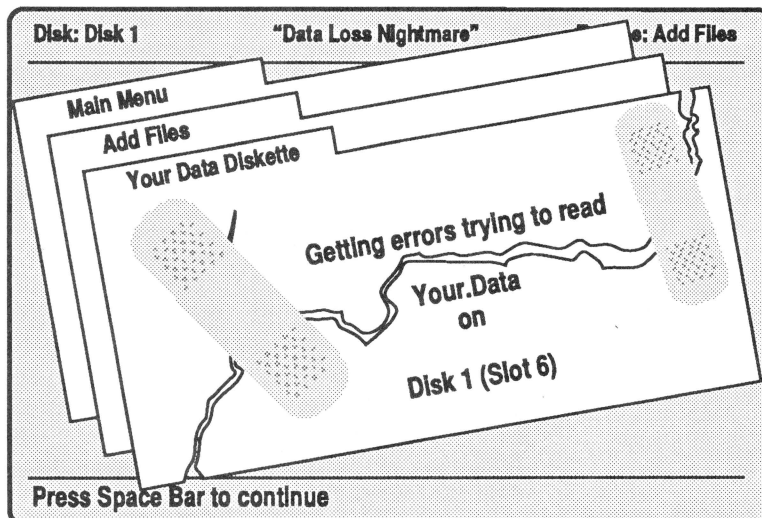
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Macros that Print Two-Sided Documents

by William Neef

Have you ever tried to print multi-page documents on two sides of the page? These are generally longer documents that you will bind or 3-hole punch.

Unlike most documents, which use the same format for every page, two-sided documents require different formats for the odd and even numbered pages. More specifically, odd numbered pages require a larger left margin; even numbered pages require a larger right margin.

The common AppleWorks work-around is to set the margins for odd-numbered pages and print the complete document on continuous feed paper. Then you turn the paper over, re-set the margins for the even-numbered pages, and re-print the document starting with page 2. Finally, you discard every other printed page, leaving one complete set of pages printed on both sides.

John Jordan, of National City, California, developed two macros that make it easy to handle two-sided

Figure 1: Macros that Print Two-Sided Documents

```
start
<ba-O>:<awp :      { Define the macro to print odd numbered pages.      }
zoom : oa-Z :      { Force zoom-in to display the print options.    }
oa-1 : oa-0        { Go to the beginning of the file; call the Options Menu.  }
>IM<rtn>1<rtn      { Set a 1" left margin.      }
>RM<rtn>.3<rtn     { Set a .3" right margin.   }
>CI<rtn>12<rtn     { Set 12 characters per inch font size. }
>FO< rtn          { Enter a Footer Command.    }
>CN< rtn :        { Center the page number.      }
esc :             { Leave the Options Menu.      }
rtn : rtn         { Leave two blank lines above the page number.  }
>- Page <         { Type the text "- Page " in the footer.      }
oa-0 >PP< rtn : esc { Go to the Options Menu, issue a Print Page Number Command. }
> -<             { Enter another hyphen so the header reads "- Page 1 -". }
down :           { Move past the line of text in the footer.    }
ctrl-n :         { Turn off centering.      }
down :           { Move past the End Footer Command.          }
A = 1 :          { Set variable A to the beginning page number. }
begin :          { Start the actual printing routine.          }
oa-P             { Issue a Print Command.      }
>P<             { Indicate that you want to print "page to page". }
rtn :            { Select the printer you used the last time you printed. }
print A : rtn :  { Enter the beginning page number.            }
onerr stop :     { Stop if AppleWorks beeps; you're at the end of the document. }
print A : rtn :  { Otherwise, enter the same page number for the ending page. }
rtn : spc :      { Accept the "Print 1 copy" default.          }
                { The "spc" token is not required for most hardware/ }
                { software combinations. You should experiment both ways. }
A = A + 2 :      { Increment variable A by 2.      }
rpt>!           { Repeat for the next odd numbered page.      }

<ba-E>:<awp :      { Define the macro to print even numbered pages.      }
zoom : oa-Z :      { Force zoom-in to display the print options.    }
oa-1 : oa-0        { Go to the beginning of the file and call the Options Menu.  }
>IM<rtn>.3<rtn     { Set a .3" left margin.   }
>RM<rtn>1<rtn :    { Set a 1" right margin.   }
esc :             { Leave the Options Menu.      }
A = 2 :          { Set variable A to the beginning page number. }
begin :          { Start the actual page printing routine.      }
oa-P             { Issue a Print Command.      }
>P<             { Indicate that you want to print "page to page". }
rtn :            { Select the printer you used the last time you printed. }
print A : rtn :  { Enter the beginning page number.            }
onerr stop :     { Stop if AppleWorks beeps; you're at the end of the document. }
print A : rtn :  { Otherwise, enter the same page number for the ending page. }
rtn : spc :      { Accept the "Print 1 copy" default.          }
                { The "spc" token is not required for most hardware/ }
                { software combinations. You should experiment both ways. }
A = A + 2 :      { Increment variable A by 2.      }
rpt>!           { Repeat for the next even numbered page.      }
```

My Favorite Macro...

printing. The first macro (ba-O) prints the odd numbered pages; the second macro (ba-E) prints the even numbered pages.

How to Use These Macros

To use these macros, insert paper in your printer and issue a <ba-O> to print the odd numbered pages. Then turn the paper over, insert page 1 in the printer, and issue a <ba-E> to print the even numbered pages. The macros work with either continuous feed and single sheets of paper, but you will have to experiment before you get correct output from your system.

The macros set the format to 12 characters per inch with 1.3-inch combined right and left margins. You can change the margins and character per inch settings to suit your taste.

The macros assume that you will send the output to the same printer you used the last time you printed. If you have not printed since launching AppleWorks, the macros will choose the first printer on the Printer Menu. To change printers, issue an Apple-P command, select the printer you want to use, press the Return Key, and then press the Escape Key to return to the document.

You must print the odd numbered pages before printing the even numbered pages. That is because the commands that insert the footer and number the pages and the command that sets the font size only appear in the ba-O macro. Those printer options will remain in effect when you invoke the ba-E macro.

Each macro includes the token "spc" in the line <rtm : spc :> near the end of the macro. The <spc> token is not required on most hardware/software combinations. Delete the <spc> token and see if the macros work correctly. If they do not, re-insert the token into the macro.

[William Neef is a retired purchasing agent for Welding Metals, Inc. and is Treasurer of the Apple Jackson (Mi) Users Group. John Jordan is a retired naval electrician who is active in four San Diego-area users groups.]

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How to Generate a Relational Report

by Dan Verkade

This is the fourth in a series of articles that describe how to use TimeOut ReportWriter. This month, the author describes how to combine data from two data base files. He assumes you read the previous articles in this series.

Last month you learned how to use the ReportWriter Editor to prepare a simple, non-relational report. Now you will use those skills to build a report that combines data from two or more data base files. More specifically, you will learn how to combine data from the Rolodex file on the ReportWriter disk with data from an Overdue file prepared by your bookkeeper. You will match related records in these two files by using a category called CustNum (for "customer number") that will appear in both files.

This article is a tutorial. The many steps I describe will make more sense if you work at your keyboard as you learn the concepts covered in this article.

Getting Started

Start by adding the CustNum category to the Rolodex file. Proceed as follows:

1. Add the file Rolodex to the AppleWorks desktop.
2. Enter an Apple-N and change the file name to ROLODEX.1. (You are going to change the data in this file but want to preserve the original file. By changing the filename, you will not overwrite the original file when you save the new data.)
3. Enter an Apple-I to indicate that you want to insert a new category. AppleWorks will warn you that it will delete all your report formats and screen displays. Indicate that you want to proceed by answering "Yes".

Figure 1: Rolodex File with Customer Numbers

CustNum	Name	Address
ESP987	Joe Espana	987 Curtz Ave
SMI099	Stan Smithers	99 Alma Ave
CHR995	Joe Christensen	995 Albion Way
STA446	Chris Stanley	446 Salinas Dr
HAR876	Deborah Harrod	8765 Sand Hill Rd
WIT125	Sue Withers	1256 Blue Sky Dr
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CHA356	Michael Chang	3567 Saratoga Ave
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PET124	Elaine Peters	1245 De Anza Ave
KRI124	Peter Kristofferson	1245 Hayden Way
ROB019	Kris Roberts	19 Sunrise Pl

4. Enter "CustNum" as the new category name and press Apple-Y to "yank" (i.e., delete) the extra characters after the new entry. Press the Return Key to accept the new category.
5. Press the Escape Key to return to Review/Add/Change mode and enter an Apple-S to save your changes.

Entering Customer Numbers

Now you will enter a unique customer number into each record. (Later you will use the customer num-

Figure 2: List of Current and Overdue Balances

Customer	Current Balance	Over 90 days
ESP987	1232.50	654.75
CHA356	885.70	885.70
WAL236	654.25	85.00
JAM127	1844.35	221.45
KRI124	940.55	488.25

Figure 3: ReportWriter Editor Screen

File: OverDueReport EDITOR Escape:Main Menu

Customers Overdue By 90 Days

Customer

Current Balance

Past 90 Days

Type entry or use ⌘ commands

Row: 1 Col: 1

⌘-? for Help

Figure 4: OverDueReport Field Names

File: OverDueReport EDITOR Escape:Main Menu

Customers Overdue By 90 Days

Customer

Current Balance

Past 90 Days

CustName

CustStreet

CustCity CustState CustZip

CustCode

CurBal

Past90

Type entry or use ⌘ commands

Row: 1 Col: 1

⌘-? for Help

ber to match the records in different files.) You should have a pattern, or algorithm, to assign these numbers so they are both meaningful and “unique”. That is, no two records can have the same Cust-Num entry. (See the sidebar entitled “Designing Unique Codes” for more information about how to design unique and meaningful codes.)

Enter a six-digit customer “number” consisting of the first three letters of the customer’s last name and the first three numbers of his/her street address. If the address contains fewer than three num-

bers, use a leading zero. For example, the customer number for Joe Smith who lives at 9 Village Road would be SMI009.

Now enter the customer number in each record in the Rolodex.1 file. When you are done, your multiple record layout display should look like the example in Figure 1.

Save the modified file on a disk; you will use it in future months.

Create the Master File

Now assume you asked your bookkeeper for a list of all customers with balances more than 90 days overdue. You want that report to include the customer’s overdue and current balances. The bookkeeper gives you the list that appears in Figure 2.

You need the name and address of each overdue customer so you can send each one a letter. Rather than looking up each address manually, you will use ReportWriter to generate the list. The first step is to create the Master File.

It is easy to assume that the Rolodex.1 file should be the Master File for this report. However, that assumption is not correct. Remember, the intent of the report is to provide information about five overdue customers. Thus, the bookkeeper’s data in Figure 2 becomes the Master File. You will use Rolodex.1 to provide additional information for each of those five records. If you have difficulty deciding which is the Master File, remember that you usually print all the records in the Master File.

Creating the Master File is no different from creating any other AppleWorks data base. Follow these steps:

1. Add a new data base file to the desktop. Call it CustOverDue.
2. Change the name of Category 1 to Customer.

Designing Unique Codes

If you are new to creating sophisticated data base applications, you might wonder why you should use code numbers instead of customer names in the key field in this application. Here are three reasons to use codes in the key field:

1. Codes are shorter. For example, it is easier to enter "SMI099" than to enter "Stan Smithers" when you are searching for or matching records. This is particularly important when you work with related files; you must enter the key category into each record in every file.
2. Every entry in a "key" category must be unique. That is, no two records can have the same data in the key category. ReportWriter assumes you have unique entries in the key field. Thus, the program searches the AppleWorks data base file until it encounters the first record that matches the key category in the Master File. If you use unique entries in the key category, ReportWriter will always stop at the

correct record. But if two or more records have the same entry in this category, you cannot be certain that ReportWriter will locate the correct record. Using a customer code ensures that you always have unique entries in your file.

3. Customers often call themselves by different names. For example, a customer might call himself Robert Smith one time, and Bob Smith the next. Looking up records by customer code instead of customer name avoids this problem.

Construct Meaningful Codes

Although some data base designers assign arbitrary numbers to each record (for example, Anne Anderson could be 100, Ben Benson could be 101, and so forth), there are two reasons to avoid this approach. First, if you lose the Master File or list of customers and numbers, there is no way to reconstruct the file. Second, if a customer does not know his or her number, you must look it up on a list or do an electronic search to find the customer's data.

Whenever possible, the codes you use in the key field should follow a systematic and meaningful algorithm. That makes it easier to define the codes for each record, locate records by code, and reconstruct the file should you lose your current data.

For short lists, I prefer the coding algorithm that I suggested in the accompanying article. By using the first three characters of the customer's last name and the first three digits of their street address, you can prepare codes that are unique, succinct, meaningful, and easy to remember and reproduce. Larger lists would require a more complex coding algorithm. Keep in mind that by removing characters to make shorter codes, you decrease the chances of the codes remaining unique. If you are concerned about duplicate codes, you can add Zip Code, more name information, or other descriptive information. However the obvious cost of this decision is a set of more complex and longer codes.

—Dan Verkade

3. Add two new categories, called CurBalance and Over90.
4. Type the information from *Figure 2* into the data base file.
5. Save the new file. *[Ed: This example assumes that the bookkeeper gave you a printed list of overdue customers. If the bookkeeper gave you the list in an AppleWorks data base file, all you need to do is issue an Apple-N command and rename the file and the categories.]*

Setting Up the Report Layout

Now you will create the ReportWriter report format for a new report called OverDueReport. Use the skills you learned in the earlier articles in this series to format the report so it looks like the ReportWriter Editor Screen in *Figure 3*. Remember, the asterisks are field markers that you place with a Control-F. Also note that the section position marker 'B' is on a blank line. The section position marker 'T' is for the title.

Now you will use the annotations in *Figure 4* to define the fields for this report. Follow these steps:

1. Put the cursor on the CustCode field, enter an Apple-N, and name the field "CustCode". Specify that the source is the Master File. ReportWriter will display two file choices: Rolodex.1 and CustOverDue. CustOverDue is the Master File, so select CustOverDue and choose Customer as the category. Press the Escape Key to return to the ReportWriter Editor.

2. Put the cursor on the asterisks under "Current Balance", issue an Apple-N and name the field "CurBal". Indicate that the source is the Master File and use the category CurBalance.

3. With the Define Field Menu on the screen, select #6, "Format", and press the Return Key. ReportWriter will display a list of format choices for this field. The first five choices let you specify the format of numeric fields; the last three choices format fields containing text. (This is the first time you are using this feature of ReportWriter; the earlier exercises used the default formats established by the program. ReportWriter offers the same format options in data base reports that AppleWorks provides in the spreadsheet module. That is, ReportWriter formats numbers in Fixed, Dollars, Commas, Percent, or Appropriate formats. The program lets you specify Left Justification, Right Justification, or Center Justification for text entries.)

Since the CurBal field will represent amounts of money, choose #2, "Dollars". ReportWriter will automatically put a dollar sign to the left of every number in this field and will insert commas as needed.

ReportWriter then asks for the number of decimal places you want to display in this field. Enter a "2" and press the Return Key.

4. Now you will specify that CurBal is a numeric field.

Select the choice "Other" from the Define Field Menu. With the Other Menu on the screen, select #1, "Select field type". Then choose #2, "Numeric". (I will describe the different field types in a later article in this series.) Press the Escape Key twice to return to the ReportWriter Editor.

5. Press the Tab Key to move the cursor to the asterisks under "Past 90 Days". Issue an Apple-N, and name this field "Past90". Specify the Master File as the source and "Over90" as the category. Format this field as "Dollars" with two decimal places, and make its data type numeric. Then press the Escape Key twice to return to the Editor.

Defining Lookups

Now you must define the fields that will contain the customer information from the Rolodex.1 file. First you will define the CustName field, the field that will print the customer name. Follow these steps:

1. Put the cursor on the asterisks under "Customer" and enter an Apple-N. Enter "CustName" as the name of the field. Then select "Lookup by key" as the source for this field.
2. ReportWriter will display several new options on the Define Field Menu. The customer name is in the Rolodex.1 file, so select #4, "File", and then choose "Rolodex.1" from the list of files on the desktop.
3. Select #5, "Category", from the Define Field Menu. Then select "Name" from the list of categories in the Rolodex.1 file.

You just told ReportWriter that you want the customer's name from the Name category in the Rolodex.1 file to print in the CustName category in the report. Now you must tell the program how to find the record in the Rolodex.1 file that matches the record in the CustOverDue Master File. Proceed as follows:

4. With the Define Field Menu on the screen, choose #6, "Lookup field". The "Lookup field" is the ReportWriter field that provides the "key". ReportWriter will use this field to find the corresponding record in the AppleWorks file. That is, you want ReportWriter to read the customer number from the CustOverDue field and find the corresponding customer number in the Rolodex.1 file. Therefore, the field CustCode in the CustOverDue file is the "key" field.

ReportWriter will display a list of all the defined fields. Use the Arrow Keys to highlight

the name "CustCode" and press the Return Key. (Remember that CustCode is the ReportWriter field that gets its data from the "CustNum" category in the Master File "CustOverDue". Since you are in ReportWriter, you must use the ReportWriter field name of CustCode, not the AppleWorks category name of "CustNum". *Figure 5* lists the ReportWriter field names and the corresponding AppleWorks category names.)

- Now you will tell ReportWriter the name of the category in the Rolodex.1 file that you want to match with the "key" category.

With the Define Field Menu on the screen, select #7, "Lookup category". ReportWriter will display a list of all the categories in the Rolodex.1 file. You want the category that contains the list of all the customer numbers; select "CustNum".

- Press the Escape Key to return to the ReportWriter Editor.

You have now defined the CustName field. When you generate this report, ReportWriter will first enter the three Master File fields. That is, ReportWriter will enter the customer code, the current balance from the CurBal category, and the overdue balance from the Past90 category. Then ReportWriter will look through all the records in the Rolodex.1 file until it finds ESP987 in the category "CustNum" and will put the data from the category "Name" into the ReportWriter field "CustName" (see *Figure 5*).

Figure 5: Field Names in OverDueReport

RW Field Name	Source	Source File	Source Category	Format
CustCode*	Master File	CustOverDue	Customer	Default
CustName	Lookup by Key**	Rolodex.1	Name	Default
CustStreet	Lookup by Key**	Rolodex.1	Address	Default
CustCity	Lookup by Key**	Rolodex.1	City	Default
CustState	Lookup by Key**	Rolodex.1	State	Default
CustZip	Lookup by Key**	Rolodex.1	Zip	Default
CurBal	Master File	CustOverDue	CurBalance	Dollar,2
Past90	Master File	CustOverDue	Over90	Dollar,2

* Key Field; matched with CustNum category in Rolodex.1.

** "CustCode" is the lookup field in the Master File and "CustNum" is the lookup category in the corresponding AppleWorks file.

Figure 6: Sample Report

Customers Overdue by 90 Days			
Customer		Current Balance	Over 90 Days
Joe Espana	ESP987	\$1,232.50	\$654.75
987 Curtz Ave			
Sun City	CA 95432		
Michael Chang	CHA356	\$885.70	\$885.70
3567 Saratoga Ave			
Sorano	AK 89724		
Jim Wallace	WAL236	\$654.25	\$85.00
2367 Martinez Way			
Pageville	CA 98124		
Marin Jamison	JAM127	\$1,844.35	\$221.45
1278 Moraga Ave			
Moraga Hills	AZ 99998		

Finishing the Report

Now repeat steps 1-6 to define the last four fields. All four will use "Lookup by key" as their source. Use "CustStreet", "CustCity", "CustState", and "CustZip" as the field names. Select "Rolodex.1" as the Lookup File, and use the categories "Street", "City", "State", and "Zip" for the respective categories from the AppleWorks Rolodex.1 file. Use "CustCode" as the "Lookup field" and "CustNum" as the "Lookup category" for these remaining fields.

Note that you can tell ReportWriter to look up data in more than one file, thus ReportWriter always asks for a file name when you define a lookup.

Figure 7: ReportWriter Editor Screen

File: OverDueReport		EDITOR		Escape:Main Menu	
Customers Overdue By 90 Days					
Customer	Current Balance	Past 90 Days			T
*****	*****	*****			H

*****					B

Type entry or use ⌘ commands			Row: 1 Col: 1	⌘-? for Help	

2. Enter an Apple-M and press the Down Arrow Key four times to move the cursor down four rows. Then press the Return Key. The ReportWriter Editor screen will look like the example in *Figure 7*. The CustCode field is now below the body of the report (as signified by the letter "B" on the right-hand edge of the screen) and is in the Work Area.

Now issue an Apple-G to generate the report again and note that the customer code does not appear in the report.

Generating the Report

Now you will check your work by "printing" a sample of the report on the screen.

With the ReportWriter Editor on the screen, issue an Apple-G command and follow the on-screen prompts to print the report on the screen. Your report should look like the example in *Figure 6*.

How to Use the Work Area

Now you will learn how to use the "Work Area" in the ReportWriter Editor to print the report without printing the key field (the customer number).

ReportWriter does not print its Work Area. Thus, you can use the ReportWriter Work Area to manipulate fields and perform computational operations without printing that data in the report. By moving the CustCode field into the Work Area, you can use the data in that field to match records. However, since the field is in the Work Area, ReportWriter will not print the contents of the CustCode field.

The Work Area consists of any place below the last section marker in the report. (Although ReportWriter offers a Work Area section marker, that section marker is optional.)

Follow these steps to move the customer code into the Work Area:

1. Put the cursor on the first field marker of the CustCode field. If you forget which field contains CustCode, issue an Apple-Z command to display the field names. Then issue another Apple-Z to return to the field markers.

Conclusion

You have now generated your first relational report. Future articles in this series will describe how to use this skill to prepare a sales tracking and inventory system.

[Dan Verkade is the developer of TimeOut ReportWriter, DoubleData, and other popular AppleWorks enhancements.]

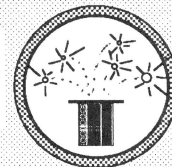
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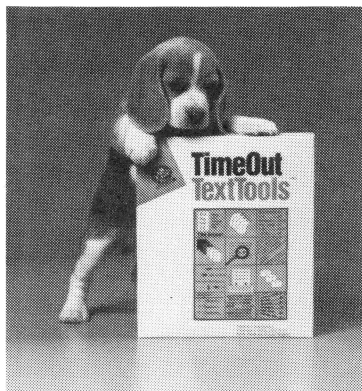
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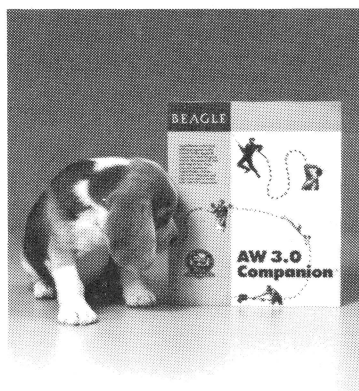
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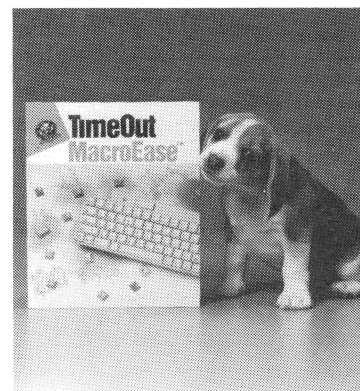
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Late News for AppleWorks Users

ActaSoft

ActaSoft recently announced AlphaCheck Plus, a significant upgrade of the company's popular AlphaCheck home and small business accounting package that runs within AppleWorks. AlphaCheck Plus provides both single and double-entry bookkeeping and offers both a chart of accounts and vendor lists. These lists make it easier to pay bills and generate monthly reports and year-end summaries for accounting and tax purposes.

AlphaCheck Plus maintains a general ledger that summarizes all activities and offers enhanced reporting capabilities, including the ability to generate trial balances, expense reports, vendor reports, cash disbursement journal reports, and, through an optional payroll module, payroll reporting.

ActaSoft also announced the release of two business accounting enhancements to AlphaCheck Plus. Payroll Plus prints on any popular payroll check and computes deductions for social security, federal and state income taxes, and two miscellaneous deductions for any number of employees.

ReportsPlus is a report generator that produces accountant-approved and bank-approved trial balance reports, statements of operations, and balance sheets.

AlphaCheck Plus lists for \$68, Payroll Plus lists for \$39.95, and ReportsPlus lists for \$29.95. All prices plus \$3.50 s/h. AlphaCheck, which remains in production, lists for \$49.95. Upgrades from AlphaCheck to AlphaCheck Plus cost \$19.95 plus \$2.50 s/h (the upgrade package includes documentation on disk instead of a printed manual). NAUG members receive special discounts from ActaSoft; see the Special Offers article on page 17 for the special NAUG member prices.

[ActaSoft, 19700 Wells Drive, Woodland Hills, California 91364; (818) 996-6731.]

Applied Engineering

Applied Engineering is now shipping a heavy duty 6 amp power supply for Apple IIGS computers.

Owners of heavily accessorized systems can determine if they need the new unit by examining the specifications on their peripheral slot cards and adding up the amperage required on the +5 volt line. If that figure exceeds 3.5 amps and you use TransWarp GS, RamFast, or another high performance card, consider upgrading your unit for enhanced reliability.

The new power supply has the same physical dimensions as the original; installation takes approximately one minute and does not require any tools. The unit is not compatible (and is not required) with internal IIGS hard drives that replace the original IIGS power supply, such as Applied's Vulcan drive. Applied's heavy duty IIGS power supply has a suggested retail price of \$99 and is available at a discount from mail order vendors.

Applied continues to manufacture a \$79 heavy duty power supply for Apple IIe systems. The usual symptom of power supply problems on the IIe is occasional unprovoked rebooting of the computer during normal operations.

Applied also reduced the suggested list price of many of its Apple II products. The firm's TransWarp GS and PC Transporter cards now cost \$349 instead of \$399, and Applied also reduced the price of all Apple II memory boards. For example, a GS Ram board with 2-megabytes of memory now lists for \$379 instead of \$499.

Applied Engineering products are generally available at significant discounts from mail order vendors. Make certain your cost reflects these lower list prices.

[Applied Engineering, Box 5100, Carrollton, Texas 75011; (214) 241-6060.]

Beagle Bros

Beagle Bros recently acquired Randy Brandt's Outline 3.0 program from JEM Software and renamed the product "Outliner". Outliner makes it easy to prepare outlines, maintain "to-do" lists, organize class notes, and generate lesson plans. Outliner's

suggested retail price is now \$69.95. See page 17 for special NAUG member prices on this product.

Beagle also announced plans to release TimeOut SuperForms, a utility that works in conjunction with TimeOut SuperFonts to create custom forms inside AppleWorks 3.0. You draw the form on the screen using lines, boxes, grids, and other tools included with SuperForms. Then you print the form with SuperFonts.

The package includes FormFiller, an application that lets you fill in your newly created forms with information from a data base file.

SuperForms, developed by Dan Verkade, has a suggested retail price of \$69.95 and will be available from NAUG on October 15 for \$41.95 plus \$3 s/h.

Beagle recently released version 1.2 of TimeOut TeleComm, the company's telecommunications program that works within AppleWorks. Version 1.2 is a maintenance release that fixes problems with earlier versions of this program. Updates to TeleComm 1.2 are available free to NAUG members. Send your original TeleComm disk and a return mailer to NAUG, Box 87453, Canton, Michigan 48187. We would appreciate, but do not require, a donation of \$1 to help us recover the cost of this upgrade program. We expect to ship replacement disks by October 15. Our thanks to Beagle Bros for supplying these disks to NAUG.

Beagle also announced Platinum Paint, a powerful new Apple IIGS paint program. Platinum Paint offers easily editable palettes, patterns, and brushes, and it lets users stretch, resize, slant, rotate, flip, mirror, and invert any graphic. The program offers several custom and gradient fill options, produces animation through color cycling, and draws normal and Bezier curves.

Platinum Paint, which can read all the popular IIGS graphic formats, lets users import HiRes, Double HiRes, Print Shop, Print Shop GS, and MacPaint images. Graphics created with Platinum Paint are compatible with other IIGS applications such as AppleWorks GS and HyperStudio.

Platinum Paint, which requires at least one megabyte of memory and a 3.5-inch disk drive, is compatible with ImageWriter and LaserWriter printers,

hard disks, and AppleShare file servers. The program has a suggested retail price of \$99.95. Until December 25, 1990, owners of any commercial Apple II paint program can upgrade to Platinum Paint for \$49.95 plus \$3.50 s/h by mailing the manual cover with payment to Beagle Bros.

[Beagle Bros, 6215 Ferris Square, Suite 100, San Diego, California 92121; (619) 452-5500.]

Epson America

Epson America recently enhanced its popular LQ-850 and LQ-1050 24-pin dot matrix printers with new firmware that increases print speed approximately 10% in letter-quality mode and 36% percent in draft mode. Epson now claims draft printing speeds as high as 300 characters per second (cps) and 82-98 cps for letter quality output. Suggested list prices remain unchanged at \$799 for the 8.5-inch model LQ-850 and \$1099 for the wide-carriage LQ-1050. The printers are available at significant discounts from mail order vendors.

There are no external changes on the new printers; you have to check the serial number and product code on the identification plate. The new model of the LQ-850 has a serial number starting with OTF and a product code of P88MB. The serial number of the latest model LQ-1050 starts with OTG and has a product code of P18MB.

[Epson America, 2780 Lomita Boulevard, Torrance, California 90505; (800) 922-8911.]

Hewlett-Packard

Hewlett-Packard recently announced that LaserJet IIP printers produced before March 1990 were shipped with defective power supplies. According to the company, many units will stop functioning and display the message "50 NEEDS SERVICE" on the control panel display. There is no safety problem. LaserJet IIP printers with serial numbers that begin with "3" have good power supplies.

HP will replace the power supply on all affected units at no charge. For more information, contact Hewlett-Packard at (800) 233-5153. Canadian owners of LaserJet IIP printers should contact their local HP authorized dealer or HP customer service center.

Micro Memory

Micro Memory now services all Checkmate Technology products. Checkmate Technology, which manufactured popular Apple II memory enhancements, recently went out of business.

[Micro Memory, Inc., 7655 E. Gelding Drive, Suite B-1, Scottsdale, Arizona 85260; (602) 998-0227.]

NAUG

NAUG recently expanded its Beagle Buddy program to include a Canadian Beagle Buddy. Canadian members can now update to the latest version of Beagle's TimeOut products from John Carson, 215 Cedar Avenue, Rosemere, Quebec, J7A 2W5. This eliminates problems Canadian members experienced with currency exchange rates and customs. The prices for shipping and handling (in Canadian dollars) are \$3.25 for the first 5.25-inch disk and \$1.50 for each additional 5.25-inch disk; \$3.75 for the first 3.5-inch disk and \$2.25 for each additional 3.5-inch disk. A list of NAUG's U.S. Beagle Buddies appears on page 31 of last month's issue of the *AppleWorks Forum*.

Sensible Software

Sensible Software announced the release of an AppleWorks 3.0-compatible version of Sensible Grammar, the company's punctuation, word usage, and grammar verification program. Sensible Grammar checks for common grammatical errors, repeated words, punctuation errors, contractions, cliches, legal terms, and pompous, redundant, vague, wordy, or sexist phrases. The program is a post-processor; you create a document, quit AppleWorks and run Sensible Grammar which interactively corrects some mistakes and marks others. Then you return to AppleWorks, make your final edits, and print the document.

Owners of Sensible Grammar can update to the latest version and get a new manual by sending the company the original manual, disks, and payment of \$20, which includes shipping (Michigan residents add 4% sales tax).

Sensible Grammar has a suggested list price of \$99.95. However NAUG members can purchase the program at a special discount; see the Special

Offers article on page 17 of this issue of the *AppleWorks Forum*. Version 1H of Sensible Grammar is current.

[Sensible Software, 335 East Big Beaver Road, Suite 207, Troy, Michigan 48083; (313) 528-1950.]

Vitesse

Vitesse recently announced the planned release of Deliverance, a \$49.95 directory repair and file recovery utility for the IIGS. Deliverance offers an automatic mode that recovers lost files, marks bad blocks, and repairs damaged directories. In manual mode, Deliverance lets technically advanced users access and change all data and directory information stored on a floppy or hard disk. Vitesse expects to release Deliverance in early October.

Vitesse also announced plans to release Harmonie, a collection of printer drivers for GS/OS applications such as AppleWorks GS. Harmonie includes drivers for Hewlett Packard DeskJet, DeskJet Plus, DeskJet 500, LaserJet II, LaserJet IIP, LaserJet III, and PaintJet printers and 24-pin Epson LQ and compatible printers. You install the drivers in the Drivers folder, and Harmonie lets you print on any of the listed printers from either the IIGS serial port or with many popular parallel or serial printer interface cards. Harmonie requires an Apple IIGS with GS/OS and has a suggested list price of \$49.95. The company expects to release Harmonie by November 1.

Vitesse also produces a series of utility programs for Apple IIGS hard disk users. Salvation Guardian (list price \$49.95) is a hard disk backup utility. Version 1.03 is current. Salvation Renaissance (list price \$49.95) is a disk optimizer that increases the speed and efficiency of fragmented disks. Renaissance includes a bit map repair program to fix damaged bit map problems. Version 1.03 of Renaissance is current. The Exorciser (list price \$44.95) is a virus checker that can discover and cure most Apple II viruses. The current version of The Exorciser is 1.01B.

Wings (list price \$49.95) is a program manager and launcher that uses a graphic interface. Wings includes file and volume utilities and a file "viewer" that lets you display the contents of a graphic file

or play the contents of files containing sounds, including HyperStudio sounds. Wings also lets you view and edit text, WordPerfect, AppleWorks Classic, and AppleWorks GS word processor files without launching the program that created the file. Version 1.03 of Wings is current.

Finally, Vitesse manufactures the Quickie; a hand-held scanner that works with Apple IIGs, IIE, II+, and Laser 128 computers. Quickie's software scans pictures either horizontally or vertically and can save the picture in most common Apple II graphic formats including HiRes, Double HiRes, 320 mode GS, 640 mode GS, and Print Shop GS. WestCode is currently developing optical character recognition software for the Quickie that will give the scanner the capability to read most printed text. List price for the Quickie is \$299.00; version 2.02 of the Quickie software is current.

Until December 1, NAUG members qualify for a special NAUG member rebate on these products. See the Special Offers article on page 17 this issue of the *AppleWorks Forum* for the details of this offer.

[Vitesse, Inc., Box 929, La Puente, California, 91747; (818) 813-1270.]

Zip Technology

Zip Technology announced plans to release three Apple IIGs accelerators. The Zip Chip GS and the Zip Chip GSX replace the 65C816 processor on the IIGs motherboard. The Zip Chip GS, which features an 8 megahertz processor and 8K of cache memory, is not DMA compatible. The Zip Chip GSX runs at 8 megahertz, includes 16K of cache memory, and offers DMA compatibility. The Zip Chip GS will have a suggested retail price of \$250; the Zip Chip GSX will list for \$300.

The third product, the Zip GSX Plus, is an accelerator board that operates at 8 megahertz, includes 16K of cache memory (user upgradeable to 64K), and is DMA compatible. The board also offers a removable CPU that can be replaced with a faster processor should one become available in the future. The Zip GSX Plus has a suggested retail price of \$350.

Zip plans to start shipping the Zip GSX Plus by October 1 and has not announced shipping dates for the other products.

As of press time in mid-September, NAUG has not seen these Zip Technology products. We advise members to wait until we receive functioning units before ordering these accelerators.

Electronic Index Disk Update

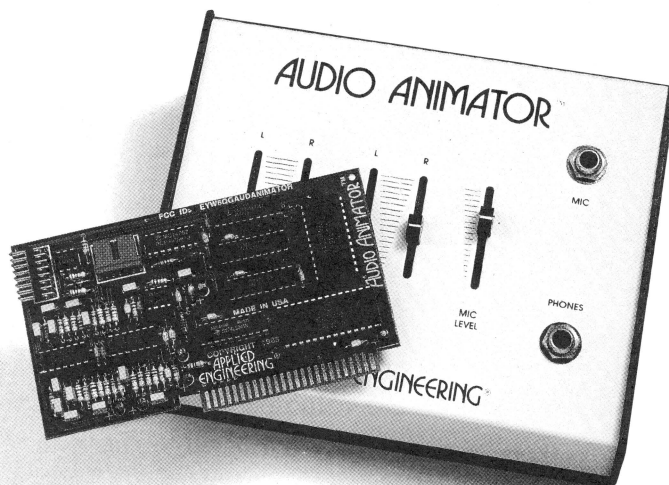
The list to the right contains the October 1990 update for NAUG's Electronic Index Disk. If you have more than 128K of RAM, enter the data into the file "Forum Index.ALI". If you have a 128K system, enter the data into the file "Forum Index.IV".

NAUG updates the Electronic Index Disk monthly. You can order the latest version from the NAUG Public Domain Library (\$4 per 5.25-inch disk; \$6 per 3.5-inch disk plus \$2 s/h per order) or download the latest version of the file from the NAUG bulletin board, (313) 736-8102, or from the NAUG areas on America On-Line and on CompuServe.

Electronic Index Disk October 1990 Update

Enter the default values for these categories: Volume #: 5 • Issue #: 10 • Date: Oct 90;
Enter the rest of the data in the following order: Type • Page • Title • Author • Keywords
Letters to NAUG • 2 • Use Your Credit Card • Beville, Steve • dealers; Ingenuity, Inc.; mail order
Letters to NAUG • 2 • Member Thanks a Volunteer • Husar, Sharon • Members Helping Members
Letters to NAUG • 3 • Save Money on DeskJet Cartridges • Brossman, Rich • DeskJet; printers
Letters to NAUG • 3 • German AppleWorks 3.0 • Steinbeck, G. • AppleWorks 3.0; foreign languages; patches
Letters to NAUG • 3 • AWGS Page Layout Bug • Ross, Pete • AppleWorks GS; page layout; bugs
Letters to NAUG • 4 • Mouse Doesn't Work • Shipley, Scott • AppleWorks; TimeOut; UltraMacros; Mouse
Advanced Techniques • 5 • Transferring AppleWorks and AWGS Files to a Macintosh • Luoma, Nanette • AppleWorks; AppleWorks GS; file transfers; Macintosh; MacWrite II; Apple File Exchange
Advanced Techniques • 8 • How to Use the NAUG BBS to Transfer a File • Harrison, Tim • Electronic Forum; file transfers; BBS
Novice Notes • 10 • Spreadsheet Format and Design • Williams, Warren; Merritt, Cathleen • spreadsheet; templates
Special Offers • 17 • Special Offers for NAUG Members • N/A • ActaSoft; AlphaCheck; Double Data; ImageWriter; Impact Printhead Service; JEM Software; Sensible Software; NAUG; repairs; scanners; Sensible Grammar; SpellCopy; Supra Corporation; Vitesse
My Favorite Macro • 20 • Macros that Print Two-Sided Documents • Neef, William • macros; UltraMacros; page numbering; formatting
ReportWriter Tutorial • 22 • How to Generate a Relational Report • Verkade, Dan • ReportWriter; report formats; data bases; TimeOut
ReportWriter Tutorial • 24 • Designing Unique Codes • Verkade, Dan • ReportWriter; report formats; data bases; TimeOut
AppleWorks News • 29 • Late News for AppleWorks Users • N/A • ActaSoft; AlphaCheck; Applied Engineering; Beagle Bros; Beagle Buddy; Checkmate Technology; Deliverance; DeskJet; Epson; Hewlett-Packard; Micro Memory; NAUG; Outline 3.0; power supply; Quickie; Sensible Grammar; SuperFonts; TransWarp GS; Sensible Software; Vitesse; Zip Technology
Members Helping Members • 34 • Help with the AppleWorks Modules • Luoma, Nanette • word processor; data bases; spreadsheets; Mail Merge; Members Helping Members

New Words: page layout; MacWrite II; Impact Printhead Service; Vitesse; Supra Corporation; Hewlett-Packard; Micro Memory; SuperForms; Deliverance; Quickie



Break the IIGs sound barrier

Audio Animator™. All of the Sonic Blaster's features plus MIDI and external mixer

Our new Audio Animator transforms your IIGs from a beep box to a boom box! We've combined a true MIDI interface with a stereo digitizer, a stereo playback machine, an external mixer, and enough powerful, feature-laden software to unleash the sound potential your IIGs was born with. Take full control over MIDI compatible instruments, or record and play back digitized sounds with unsurpassed accuracy and quality.

Digitizing

Record sounds from your own stereo, CD player, television, or VCR, even a microphone. Audio Animator's built in oscilloscope lets you control recording levels visually and analyze inputted data. The zoom function permits you to "see" what your recording looks like in a graphical format. You determine the optimal balance between desired fidelity and available memory.

Audio Animator even has an on-board Analog to Digital converter to sample at an extremely fast rate (37,000 times a second), and with sound quality near that of a compact disk. With it, you'll obtain far higher levels of fidelity than with the GS's Ensoniq chip alone.

Play back on your own speakers

The Audio Animator includes *input/output and thru* for MIDI (Musical Instrument Digital Interface) devices. Play and record melodies on a MIDI instrument, edit them and play them back through any MIDI compatible instrument. In fact, Audio Animator lets you daisy-chain up to sixteen MIDI devices.

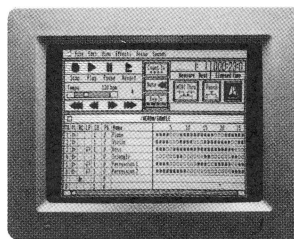
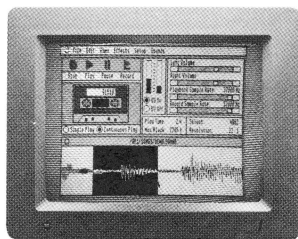
Audio Animator comes complete with an

external mixer to allow easy access to volume and record levels and microphone controls. Connect a drum machine, keyboard, stereo, CD player, even another computer... all without disturbing the GS.

Software, Too.

The powerful, mouse driven software we include presents you with easy to use pull-

- Editing functions such as fade-in, fade-out, backwards, echo, silence, and amplify
- Compatible with standard MIDI file formats including AIFF (Apple Information File Format)
- Sequencer supports 2:1 and 2.67:1 file compression
- MIDI quantization to 1/32 resolution and transposition



Compare Audio Animator with any other MIDI device or sound digitizer on the market. For completeness of the package, ease of use, quality, and an unmatched list of features... you'll choose Audio Animator.

Audio Animator **\$239**

down menus and SUPER HI-RES graphics that make the Audio Animator almost as much fun to see as it is to hear.

The MIDI portion of the software is an 8-track, 16 channel MIDI sequencer with separate channel record and playback filters and a number of editing functions like cut, copy, paste, punch in, punch out, and many more.

Features:

- Passport compatible MIDI interface
- Stereo input and output adjustable from external mixer
- Mixer has DIN connectors for MIDI in, MIDI out, and MIDI thru
- Compatible with all software utilizing the Ensoniq output
- On-screen oscilloscope to monitor inputs and VU meter

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Help with the AppleWorks Modules

by Nanette Luoma

Each month, the *AppleWorks Forum* lists the member-volunteers who offer technical support for AppleWorks products. This month's list identifies the volunteers who can answer questions about the three AppleWorks modules. Next month's issue will contain a list of members who offer help with AppleWorks utility software.

AppleWorks Modules

How to Use this List

To the left of each volunteer's name are numbers indicating the AppleWorks modules the consultant supports. Volunteers are listed alphabetically by state.

- | | |
|--------------------|-------------------------|
| 1 = Word Processor | 4 = Integrating modules |
| 2 = Data Base | 5 = Mail Merge |
| 3 = Spreadsheet | 6 = AppleWorks Network |

Alabama

		City	Home	Work
1-5	Norma M. Gradwohl	Mobile	205-343-4905	205-343-4905

Arizona

1-5	Clay Evitts	Tucson	602-885-9789	602-296-5491
1-5	Bill Holmes	Chandler	602-899-4841	602-786-7170

Arkansas

1-4	Norman Nelsen	Garfield	501-359-3612	
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California

1,2	Dan Balsley	San Ramon	415-829-5085	
1-3,5	Brian Blue	Danville	415-838-0997	415-954-6002
1-4	James Davis	Hayward	415-489-7024	
1,2	Don Farrar	Pleasant Hill	415-932-5509	
1,2,4,5	Rolf C. Freerks	San Pedro	213-833-8266	213-337-1333
1-5	David Gair	Los Angeles	213-469-9916	213-469-9916
1-5	Jim Gentilucci	Los Osos	805-528-5049	
1-5	Alan E. Kahn	San Anselmo	415-457-9827	
1,2,5	Wayne Kliman	Santa Barbara	805-967-3620	
1-4	Lucien LaCour	Woodland Hills	818-348-7787	
1-5	Berenice Maltby	Corona del Mar	714-640-7369	
1-3	Will Nelken	San Rafael	415-459-0845	415-456-1795
2,3	Jesus Orosco	Milpitas	408-270-1011	408-945-4344

Colorado

1-5	Gary P. Armour	Littleton	303-933-9493	303-972-4665
1-4	Lyle Graff	Littleton	303-794-5970	303-977-4557
1-5	John Lefebvre	Thornton	303-451-5558	303-457-2852
1-4	John Loren	Littleton	303-978-0603	
1-5	Dr. Larry Thaete	Boulder	303-939-9072	303-492-2717

Connecticut

1-5	William Delaney	Enfield	203-745-4048	203-749-8391
6	Ged Jones	Lakeville	203-435-0295	203-435-0871
1-5	Martin Knight	Middletown	203-346-9698	203-347-8594
1-4	Newton Shaffer	Gales Ferry	203-464-9716	

		City	Home	Work
Delaware				
1-4	W. Henry Linton, Jr.	Wilmington	302-478-3740	

Florida

1-4	H. Clay Bailey III	Jacksonville	904-744-2499	904-725-3477
1-5	Virginia Bobrick	Miami	305-653-3136	
1,2	Robert J. Booz	Port Richey	813-868-1802	
1-2,4-5	Bruce Pfeffer	Tallahassee	904-385-3447	386-2685
1-3,5	Andrew Pliuka	Ft. Lauderdale	305-525-3301	
1-3	Ronald Stankiewicz	Patrick AFB		407-494-2227
1-5	Jeff Strichard	Ft. Lauderdale	305-587-9590	
1-5	Mike Ungerman	Oviedo	407-366-0060	407-366-0156

Idaho

1-4	Donald H. Campbell	Lewiston	208-743-9639	208-743-8589
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Illinois

1-5	Mark Baniak	Park Ridge	312-825-6301	312-292-4116
2	Terry Campbell	Auburn	217-438-6291	217-528-2011
1-2	William Davis	Hinsdale	312-655-9142	312-887-1730
1-5	George Duffey	Bloomington	708-894-0849	708-451-3106
1-5	Clifford S. Egel	La Grange Park	312-354-4639	312-387-4045
1,2,4,5	Susan Husar	Chicago	312-631-5884	
1-4	Bowen Schumacher	Winnetka	312-501-3314	

Indiana

1-2,4-5	Jack Countryman	Greensburg	812-663-4998	
1,2	Kevin Gold	Indianapolis	317-290-8948	317-543-7098
1-4	Laura J. Kelley	Gwynneville	317-763-7290	

Iowa

1-5	Keith King	Ft. Madison	319-372-9521	
1-3,6	Stephen May	Audubon	712-563-2925	712-563-4217

Kentucky

1-4	Donald L. Corson	Louisville	812-256-3517	502-473-3083
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Louisiana

1-5	Charles Fryling, Jr	Baton Rouge	504-766-3120	504-388-1473
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Maryland

1-4	Raymond Greenberg	Darnestown	301-330-4912	301-353-4959
1-2,5	Ben Maser	Owings Mills	301-252-7884	301-887-0717
1,2	Paul M. Phelps	Baltimore	301-444-4086	301-291-4712
1-6	Ray L. Settle	Arnold	301-647-9192	301-887-0106

Massachusetts

1-5	Donald McCabe	Westport	401-294-6256	508-636-2611
1-2,5	Chuck Scheffreen	Marblehead	617-631-2787	617-728-7553
1-5	Ed Stutsman	Shutesbury	413-259-1217	

AppleWorks Modules...

		City	Home	Work
Michigan				
1-5	Jim Anker	Auburn Hills	313-391-0033	313-544-5344
1-5	Michael McMin	Swartz Creek	313-655-4442	313-232-6541
1-5	James G Reasover	Jackson	517-789-8573	517-764-1440
1-5	Pete Ross	Wayne	313-728-8269	
1-2,4,5	Deborah Williams	Grosse Ile	313-671-0267	313-675-1550

Minnesota				
1-6	James Hirsch	Coon Rapids	612-421-8393	612-422-5572
1,2,5	David Ernest Johnson	Minneapolis	612-824-2728	612-824-2728
1,3	Dick Kenfield	Hopkins	612-938-4382	
1-5	Richard Marchafava	Fridley	612-572-9305	
1-5	Sandra Redding	Marshall	507-532-2959	
1-5	Peter Zambino	St. Paul	612-690-0536	612-489-1459

Mississippi				
1-3,5	Allen Jackson	New Albany	601-534-8908	601-534-2271

Missouri				
1-5	Whit Crowley	Manchester	314-394-7955	
1-5	Bob Suits	Columbia	314-445-6082	

Montana				
1-5	Steve Bernbaum	Sheperd	406-373-6393	

Nebraska				
1-3	Jim Corbin	Bellevue	402-291-7285	402-331-7312
1-5	Dr. John W. Kelley	Omaha	402-397-3485	
1-4	Larry B. McEwen	Hastings	402-463-2267	402-461-7550

Nevada				
1-4	Keith Johnson	Sparks	702-626-2543	702-784-4812

New Hampshire				
1-5	Phil Kirkpatrick	Keene		603-352-0640
1-5	Frank R Savory	Derry		603-434-5407
1-5	Bob Skinner	Plymouth	603-536-3626	

New Jersey				
1-5	Pete Crosta	Nutley	201-667-6369	201-677-4050
1-5	Link Keur	Augusta	201-875-2568	201-992-7000
1,2,4,5	David Scott	Wall	201-531-0600	201-531-4016

New Mexico				
1-5	Willis George, Jr.	Albuquerque	505-897-4886	505-883-9743
1-2	David Selwyn	Las Cruces		505-522-7622
1-5	Gary Young	Corrales	505-897-1770	505-897-1770

New York				
1-5	Bob Beer	Coram	516-928-6870	
1,2,5	Steve Black	South Glens Falls	518-798-1128	518-793-9644
1-6	Linda Doscher	West Nyack	914-358-7064	
1-5	David W. Gagnon	Gowanda	716-532-4870	
1-5	R. Joyce-Petrovich	Yonkers	914-376-1044	
1-3	Carlos M. Madan	Morrisonville	518-562-0779	518-359-3322
1-6	Larry Merow	Sayville	516-567-0603	516-422-0315
1-6	James L. Nicoll	Pittsford	716-381-9480	716-546-6732
4	Frances Snedeker	Larchmont	914-834-3081	
1-6	Jerry Taylor	Rochester	716-964-3319	
1-3	Terry Williamson	Orchard Park	716-662-5104	716-873-9750

North Carolina				
1-5	Terry W. Robertson	Charlotte	704-536-4261	704-377-3939

Ohio				
1-4	Jason Chao	Cleveland Hts.	216-321-5451	216-844-3791
1-5	Don E. Fisher	Dayton	513-890-0428	513-461-2444
1-5	Jason Fogt	Lakeview	513-843-5779	
1-4	Carman Greco	St. Clairsville	614-695-5026	
1-5	Robert J. Netro	Canton	216-477-3667	
1-5	Marcia Reed	Millbury	419-836-9291	419-836-9291
1,3	Ltc. Robert Weis	Beavercreek	513-429-4169	513-257-6836

Oklahoma				
1,2,5	Rev. Jerry Venable	Guymon	405-338-3723	405-338-3616

		City	Home	Work
Oregon				
1-6	Jim Emig	Portland	503-771-1916	503-280-5666
1-4	M.W. Fox	Corvallis	503-754-7623	503-737-3628
1-5	Dave Lomax	Lake Oswego	503-636-7289	

Pennsylvania				
1-5	Martin Friedman	Broomall	215-353-2753	
1-5	Richard L. Gable	Pittsburgh	412-963-6158	412-963-1128
1-5	William D. Hall	Philadelphia	215-824-1160	215-441-0800
1-5	Joel Perlsh	Havertown	215-789-7673	
1-5	Rivka Rosenkrantz	Philadelphia	215-464-4725	215-493-1800
1-5	Charles Schultes Jr.	Lehigh	215-377-5169	215-377-6180
1-5	Bruce Shanker	Warminster	215-674-0118	
1-2,5	Hal Shapiro	Eagleview	215-630-8936	215-922-0500

Rhode Island				
1-5	Robert J Ricard	Cranston	401-781-5202	

Tennessee				
1-5	Jerry Bruce	Bristol	615-652-7473	703-676-2999
1-5	Bob Evridge	Knoxville	615-693-8817	615-693-9242
1-3	Joel Goldman	Nashville	615-352-3617	

Texas				
1,2,4	Larry Jones	El Paso	915-533-3302	915-565-3016
1	Joseph Kline	Lubbock	806-796-0829	
1-5	Ramon Merlin	San Antonio	512-496-5331	

Vermont				
1	Douglas C. Corey	Middlebury	802-388-6209	802-388-4021
1-3,5	Linda Metzke	Concord	802-748-3298	802-626-9371

Virginia				
1-5	Peter Pfeiffer	Herndon	703-437-1985	703-834-3618

Wisconsin				
1-5	Debby Henning	Sharon	414-736-9229	
1-5	Todd Novakofski	Ladysmith	715-532-7430	715-532-6202

Australia				
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